THE EVOLUTION OF EU COMMUNICATIONS LAW AND NEXT GENERATION NETWORKS: THE LIMITS OF LEGAL FLEXIBILITY

PhD Thesis

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26 December 2011

ACKNOWLEDGEMENTS

First of all, I would like to thank my supervisors Professor Ian Walden and Professor Richard Nobles for encouraging me to thoroughly explore the subject of this thesis. I am also grateful to my former colleagues at APEK and the ERG who have enabled me to use the regulatory work process for further learning. Finally, I owe my parents my interest in academic research.

DECLARATION

I declare that the work presented in this thesis is my own.

Signature

ABSTRACT

This thesis analyses the evolution of the EU legal regulatory framework for electronic communications in light of the changes in the law's technological and business environment, namely the shift to Next Generation Networks (NGN).

Using systems theory as its central research method, the thesis explores communications law as a self-referential phenomenon which, despite its internal attempts to promote itself by means of responding to the changing environment, remains locked-in by its own autopoietic structures.

This is demonstrated by the law's traditional focus on voice telephony as the essential communications service provided in the public interest. Whereas the idea of 'technological neutrality' has enabled the law to embrace new applied technologies such as VoIP, it could not move its attention away from its autopoietic concepts to NGN-related issues such as net neutrality.

Even though legal concepts without reference to any particular technology are increasingly used in regulation, as is the case with competition law images of 'relevant markets' and 'market power', the shift to NGN only remains visible to the law on its 'internal screen'. This becomes evident when the implementation of new technologies fails to achieve the results implied by the legal system, namely effective competition among different access infrastructures.

Systems theory keeps a distance from both neo-liberal ideas that ideologically reject regulation, as well as from the autopoiesis of the NRAs' and the Commission's harmonising efforts, which inevitably result in more legal rules. Whereas the 'efficiency' of NGN investments cannot be implied based on the mere absence of ex ante regulation, the expected further proliferation of regulation based on the law's autopoietic programmes, although more cognitively open than before, will not be able to take on board all (possibly desirable) solutions that are not foreseen by the EU legal framework.

LIST OF ACRONYMS

BEREC	Board of European Regulators on Electronic Communications
EC	European Community
ECTA	European Competitive Telecommunications Association – organisation of European alternative / new market entrant operators
ERG	European Regulators' Group – a body of European NRAs intended for reflection, debate and advice for the European Commission in the electronic communications field
ETNO	European Telecommunications Network Operators' Association – organisation of European incumbent operators
EU	European Union
FCC	Federal Communications Commission – federal telecommunications regulatory authority in the United States of America
FTTC	Fibre to the Cabinet – access technology whereby fibre optics is deployed from the operator's premises to the street cabinet, whereas the subscriber is connected to the street cabinet by means of a copper wire pair, i.e. copper local loop
FTTH	Fibre to the Home – access technology whereby fibre optics is deployed from the operator's premises to the subscriber's home
FTTP	Fibre to the Premises – equivalent to FTTH, except that connection is provided to a business subscriber's premises
HSDPA	High-Speed Downlink Packet Access – enhanced mobile communications protocol based on UMTS that enables up to 42 Mbit download speed
HSUPA	High-Speed Uplink Packet Access – enhanced mobile communications protocol based on UMTS that enables up to 5,76 Mbit upload speed
IBP	Internet Backbone Provider – entity commercially providing high-speed and high-capacity internet links in the backbone / trunk transmission network
IP	Internet Protocol – communications protocol that was originally used in internet communications and is now broadly used in various types of telecommunications
IPTV	Internet Protocol Television – transmission of television broadcast signals by means of Internet Protocol
IRG	Organisation of European NRAs that resembles the structure of the ERG, with the exception that the European Commission is not involved in its work

ISP	Internet Service Provider – usually a commercial entity that provides the subscriber with a connection to the internet and associated services, such as email. Following the advent of xDSL and other broadband technologies, ISPs are also able to offer broadband connections based on line rental or bitstream service of a telecommunications network operator. However, ISPs may often be the same entities as telecoms operators
LTE	Long Term Evolution – a name for the fourth generation of mobile telephone networks
MPLS	Multiprotocol Label Switching – a mechanism in high-performance telecommunications networks, which enables different types of IP traffic (voice, data, television broadcast, video, corporate) to be given different priority
NGA	Next Generation Access Network – access network used to connect the subscriber to the operator's point of presence, whereby at least some part of the access network is made of fibre optics instead of, say copper wire
NGN	Next Generation Network – a telecommunications transmission network based on Internet Protocol used to carry various types of traffic, including internet, voice, television broadcast, and video
NRA	National Regulatory Authority – a general term for a European Member State national regulator
NRF	New Regulatory Framework – set of Directives regulating the European electronic communications market that were passed in 2002
ONP	Open Network Provision, a common name for the set of directives and regulations introducing competition to the European communications markets
PATS	Publicly Available Telephone Service – according to the *Universal Service Directive*, a service available to the public for originating and receiving national and international calls and access to emergency services through a number or numbers in a national or international telephone numbering plan, and in addition may, where relevant, include one or more of the following services: the provision of operator assistance, directory enquiry services, directories, provision of public payphones, provision of service under special terms, provision of special facilities for customers with disabilities or with special social needs and/or the provision of non-geographic services
POTS	Plain Old Telephone Service – a name for traditional analogue telephony
PSTN	Public Switched Telephone Network – traditional telephone network employing copper wire in the access part and switching among circuits at different levels of the network hierarchy
QoS	Quality of Service – relates to quality parameters, key performance indicators or other indicators of quality of a certain communications service

SMP	Significant Market Power – legal standard for a market position that serves as a threshold for imposition of legal obligations on a telecommunications operator. Initially, a 25% market share was set as a general threshold. In 2002 the same standard became practically equivalent to the competition law standard of dominance.
TCP/IP	Transmission Control Protocol / Internet Protocol - is the set of communications protocols used for the internet and other similar networks
UMTS	Universal Mobile Telephony System – third generation of mobile telephone networks, integrating digital voice and high-speed IP mobile radio transmission
US	United States of America
VoB	Voice over Broadband – VoIP service provided via a broadband subscriber connection, generally of a quality that can resemble traditional telephony
VoD	Video on Demand – service usually based on IP that enables live video transmission at the individual request of a subscriber
VoIP	Voice over Internet Protocol – transmission of voice by means of Internet Protocol. Some types of VoIP fully resemble in their functionality traditional telephony.
xDSL	Digital Subscriber Line – a group of technologies that enable digital high-speed broadband data transmission over traditional copper telephone lines, whereby ‘x’ indicates the specific type of technology such as ADSL or VDSL

1 INTRODUCTION

The body of European electronic communications law as known today has emerged from the liberalising political agenda of the 1980s and 1990s. Starting with the UK, the EU and its Member States introduced statutory rules in order to, on the one hand, introduce competition to the market previously determined by state telecommunications monopolies and, on the other hand, to protect end-users by means of universal service obligations on the part of the incumbent operators. This has been pursued by two separate sets of legal rules: pro-competitive rules on market access and the rules on end-user rights.[1] While the first set of rules has primarily been about network interconnection and other forms of access to the communications infrastructure, the second set has largely focused on voice telephony and its features that should in the public interest be made available to consumers.

From the beginning of these processes, both the politics of setting the regulatory agenda and the law itself have pursued a competitive market whereby regulation has only been treated as an intermediary step on the way to full competition. Sector-specific regulation was seen as 'holding the fort' until competition arrives,[2] whereas the preference should be given to general competition law once the market developed.[3]

However, the electronic communications market today may be very different from what could possibly be expected in the 1980s or even 1990s. On the one hand, the European landscape, particularly the fixed access infrastructure with the exception of some larger cable operators in countries such as the UK, Ireland, the Netherlands or Slovenia, is still dominated by those incumbent operators that previously held legal

[1] See e.g. Walden, I., 2009, p. 11-12.

[2] See e.g. *Regulation of British Telecommunications profitability*, Report by Stephen C. Littlechild, Professor of Commerce, University of Birmingham, for the Secretary of State for Industry, HMSO, 1983, para. 4.11.

[3] See *Green paper on the convergence of the telecommunications, media and information technology sectors, and the implications for regulation*, COM(97)623: 'A further key issue is the balance between competition rules and sector-specific regulation, with many arguing for a preference to be given to the application of competition rules to individual cases within a converged environment, rather than the further development of extensive regulation.'

monopolies. This holds particularly true for fixed local access, where investments in new fibre-based access infrastructures are primarily carried out by the same entities. On the other hand newly built mobile networks and fixed broadband access largely provided by new market entrants have provided end-users with choice that was beyond imagination in the early days of liberalisation.

While the initial duopoly concept of liberalisation in the UK, the country which largely served as the prototype for the rest of Europe, relied on a highly unrealistic idea of constructing parallel competitive fixed copper-based telephone networks, notable new opportunities for competition have later emerged in the mobile sector and broadband internet access, the latter also thanks to the (very reluctantly imposed and belated) unbundling of fixed local infrastructures.[4] It was not until 2000, i.e. more than ten years after the initial liberalising efforts by the European Commission, that the Council and the European Parliament passed the Regulation (EC) No 2887/2000 of 18 December 2000 on unbundled access to the local loop, which enabled the sharing of bottleneck local infrastructures controlled by European incumbents and paved the way for local competition in services. Before that harmonised access conditions in Europe focused on the interconnection of independent networks.[5] Whereas European local loop unbundling followed the example of the 1996 US Telecommunications Act, it was in practice only the later technological convergence of broadband data, voice and video that actually made local competition a feasible and attractive option, both within one single network and among different network platforms.[6]

Accordingly, from the historical perspective, the lack of synchronisation between the legal system and its technological and economic environment seems obvious. While market liberalisation and network access regulation have undoubtedly facilitated

[4] Unbundling of local loops means wholesale access of competitors to the incumbent operators' local telephone network, traditionally built of copper wires.

[5] See *Directive 97/33/EC of the European Parliament and of the Council of 30 June 1997 on interconnection in Telecommunications with regard to ensuring universal service and interoperability through application of the principles of Open Network Provision (ONP*).

[6] This technological convergence enabling the transport of the same type of data over different network platforms has been noted by the European Commission in 1998, when the *Green paper on the convergence of the telecommunications, media and information technology sectors, and the implications for regulation*, COM(97)623, identified the IP technology as "the most relevant example of […] platform independence". However, it took some years after the passing of the 2000 Regulation before convergent broadband packages became wide-spread in Europe.

commercial deployment of new technologies and broader choice for end-users, the changes of the recent years can hardly fit into the legal programmes that initially opened up the European telecommunications markets. In this respect, the neo-liberal paradigm can be offered as an explanation: do the market and the technology always get it right, whereas legal regulation only plays a marginal role?

Of course, the relevance of the legal framework as to the development of the markets, not to mention the economic efficiency of legal regulation, is far more than a matter of prestige for the lawyers (and politicians, who are ultimately responsible for the passing of statutory frameworks). Currently one can witness a technological and commercial shift that is progressively turning the world's traditional communications networks into convergent Next Generation Networks (NGNs), whereby data, voice and video are all transported by means of Internet Protocol (IP), while access to end-users is increasingly provided by means of fibre optics, forming part of the so-called Next Generation Access (NGA) networks. The ability of the legal programmes to take on board the issues raised by this new environment may ultimately have an impact on investment decisions or the market dominance of certain players.

Notwithstanding possible scepticism as to the law's ability to deal with this new environment, one should bear in mind all the efforts made since the late 1990s to bring the law more in line with the technological and business evolution. Following the Commission's Green Paper on Convergence, the so-called *'New Regulatory Framework'* (NRF) has emerged in 2002, placing more focus on technological neutrality[7] and replacing universally applicable regulatory measures with a more tailor-made approach based on regular market analysis and general competition law.[8] These efforts have not only been made at the legislative level, but also at the level of the practical application of the legal framework by means of regulatory decisions. In addition to regular market reviews by the European National Regulatory Authorities (NRAs) that sometimes resulted in previously unseen remedies, such as functional separation[9] in the UK, these efforts included both Recommendations by the European

[7] Technological neutrality can be described as a notion that the law does not discriminate among different technologies.
[8] See e.g. Walden, I. in: Walden, I., Angel, J., 2005, p. 148.
[9] Functional separation can be described as a regulatory remedy or requirement, whereby a telecom operator is obliged to provide certain wholesale (network) inputs to itself or its own retail arm under

Commission and soft law in the form of ERG Common Positions and Reports. It should further be noted that the preparation of these documents has been subject to actual observations of market developments and consultations with the interested public, which makes it more difficult to criticise the gap between the legal rules and 'social reality'.

Of course, in line with the neo-liberal idea of superiority of market forces, it could also be argued that the law adapts to the environment as much as it is necessary,[10] which should result in 'efficient' legal concepts being developed based on the needs of the economy. Nevertheless, the lack of synchronisation addressed above gives sufficient reason to be sceptical about drawing direct links between legal evolution and market developments. Therefore, against this background, this thesis will apply systems theory as an approach that explains how legal concepts primarily evolve from other legal concepts and how the law, instead of re-inventing itself based on the changes in the environment, primarily re-cycles and re-uses its existing concepts to create a new image of business and technology it has to face.

In the 'systems theory' one can separately observe different social systems, including the law, as autopoietically closed systems where contacts between the systems are isolated as 'structural couplings', regular indirect links that enable one social system to establish its own image of another social system. For example, in legal proceedings, economic or engineering arguments may be quoted, but the law decides how far they can be admitted as evidence. Similarly, in legislative decision-making, the politics play a vital role but in order for the political will to have a legal effect, it must be drafted as statute, recognising the law's language and principles. Accordingly, by means of analysing these links, one can keep track of the law's evolution in relation to other social systems or non-social phenomena such as technology that are, nevertheless, reflected in various social systems such as engineering or economy. On the other hand, these links are a reminder that the law's change is essentially a self-change and that one should not expect new technologies or business ideas to be able to directly shape the law.[11] This approach can therefore

exactly the same, strictly controlled conditions as to its retail competitors.

[10] See e.g. Posner, R A., 2003, p. 4. This could be assumed based on the idea of humans as rational utility maximisers.

be used to expose both the opportunities and the limits for the evolution of law in relation to its business, technological and political environment.

Using the case studies of the two key traditional areas of communications law i.e. end-user telephony services and wholesale network access and interconnection,[12] this thesis will explore the re-shaping of the legal rules governing communications in relation to the shift to NGN in telecommunications business and technology. In addition, net neutrality[13] as a brand new challenge for the legal regulation of NGN imported from the US to the EU[14] will be addressed in order to explore the possibilities for a change of the focus of the law to new issues raised by technology. The changes in the said areas will be viewed in the context of the European institutional and procedural framework for the adoption of legal rules, as this framework has during the recent years seen important changes introduced with the intent of improving the flexibility and adaptability of the law.[15]

Looking at the developments of the EU regulatory framework for electronic communications during the late 90's and the first decade of the 21st century, one can identify two main substantive approaches the law has taken in order to take account of the changes in its economic and technological environment.

First, communications law has attempted to be more technology neutral, not only by means of an explicit principle[16] but also by means of re-defining the established concept of voice telephony, which was one of the initial targets of legal regulation following market liberalisation and remained one of the key features of the EU legal

[11] When this seems to be happening, at first glance one can usually assume that lobbying on a large-scale is taking place. An interesting case is presented by Drahos and Braithwaite as to the expansion of the scope of patents in the area of biological research. Drahos, P., Braithwaite, J., 2002, p. 155 et seq.

[12]See e.g. Walden, I., 2009, p. 11-12. See also e.g. Melody, W. H. and Garnham, N. in: Melody, W.H., 1997, p. 53 and 207.

[13] Net neutrality can be described as regulation of equal access by applications and services at the level of the internet service provision, so that a service provider is not allowed to block or prioritise certain content or services.

[14] While no uniform legal formula is used across the Atlantic, the issue addressed is perceived in a uniform way and efforts in this direction are generally supported by the same civil society movements. See Le Coz, 2009.

[15] See e.g. Walden, I., 2009, p. 169 et seq.

[16] See Article 8(1) of the 2002 *Framework Directive*. See also Walden, I., 2009, p. 53.

framework even after the 2009 review. In relation to voice telephony, technology-neutral approach is supposed to prevent discrimination between IP-based voice services (VoIP)[17] that in an NGN environment increasingly replace traditional circuit-switched services, and the latter.[18]

Second, communications law has attempted to come closer to 'economic reality' by means of seeing telecommunications as 'markets' rather than 'technologies'. This has been effected by means of borrowing concepts such as 'relevant markets' or 'market power' from general competition law, using them as the basis for regulating wholesale network access and network interconnection. This approach is a more specific version of technological neutrality, as it introduces economic substitutability criteria to the legal analysis as to whether certain services should be treated equally.

These developments will be explored by using systems theory approach as the internal developments of the legal system and not as functions of technology or economy, bearing in mind that legal responses to the telecom market must ultimately be expressed in the legal code.[19] Contrary to the classical 'law and economics' formula, these internal developments cannot be seen as a guarantee that the law is in the process of finding the most efficient ways of regulating the NGN environment. Instead they should be seen as an attempt of the communications law to promote itself[20] as the regulating system in a changing environment by taking changes on board as part of its programmes. Accordingly, these developments are the result of the law's observation of the new environment and its self-observation, but are never a direct application of the economic analysis of the law's efficiency, since the latter could only be visible to law indirectly, by means of structural couplings. As a consequence, the described self-evolution of law is limited to the law's own

[17] VoIP i.e. Voice over Internet Protocol means transmission of voice by means of Internet Protocol. Some types of VoIP now fully resemble in their functionality traditional telephony.

[18] "Conversely, voice communication services fulfilling the four conditions enshrined in the Directive and therefore appearing as substitutes for voice telephony services provided by traditional means should be regarded as voice telephony and be submitted to the relevant regulatory regime, in consideration of the principle of technological neutrality". *Communication from the Commission – Status of voice on the Internet under Community law, and in particular, under Directive 90/388/EEC – Supplement to the Communication by the Commission to the European Parliament and the Council on the status and implementation of Directive 90/388/EEC on competition in the markets for telecommunications services* (2000/C 369/03).

[19] See Luhmann, N., 2004, p. 93.

[20] See ibidem, p. 259.

solutions, which inevitably places boundaries for the system's 'adaptation' and its development towards the 'efficient' or another state preferred by other social systems, e.g., economy or politics. This is reflected in the developments mentioned above and will be corroborated during the course of this thesis.

First, the idea of technology-neutral regulation of VoIP remains limited to the law's internal criteria. These criteria may have been derived from economy (market substitution) or politics (public interest) but have at certain point become part of the legal system. This is reflected in the legacy of burdensome voice telephony regulation compared to the light-touch approach to, say newly deployed broadband services or internet services in general, where no legacy of regulation previously existed. As this research will show, the main question for EU communications law in respect of end-user services has been if and to what extent should the regulation of traditional voice telephony also apply to VoIP services. In the absence of regulatory legacy and clear statutory obligations, the legal response to other NGN end-user issues such as equal treatment of internet traffic irrespective of origin (i.e. net neutrality) has remained limited to the insertion of a vague quality of service provision into the 2009 reform package.[21] Whereas this may be seen as obvious at this stage of legal development, it does in itself question the law's flexibility, particularly where coupling with clear political legislative programmes is not available. Accordingly, it shall be argued that communications law can only achieve technological neutrality within the system itself, taking account of the law's existing images of the environment, which inevitably limits the law's adaptation to change from the perspective of other social systems.

Second, whereas the perception of the evolution of applied technologies as the 'evolution of markets' using competition law concepts of 'relevant markets' and 'market power' has dramatically increased the flexibility of the post-NRF communications law compared to the previous framework, this shift can hardly be seen as a universal formula for addressing all NGN-based market failures. Namely,

[21] See Article 22 (3) of the *Directive 2002/22/EC of the European Parliament and of the Council of 7 March 2002 on universal service and users' rights relating to electronic communications networks and services (Universal Service Directive)* as amended by Directive 2009/136/EC: "In order to prevent the degradation of service and the hindering or slowing down of traffic over networks, Member States shall ensure that national regulatory authorities are able to set minimum quality of service requirements on an undertaking or undertakings providing public communications networks."

due to the idea of the gradual 'shift' to general competition law, the EU communications law now lacks a clear formula to deal with permanent bottlenecks[22] such as local access or call termination. From systems theory perspective, this can be explained by the law relying on a limited number of internal concepts, which prevent it from seeing the full economic picture. Moreover, while competition law addresses the defects of such permanent market failures by creating its own images of 'essential facilities', communications law lacks an equivalent approach and keeps relying on its own mantra of transition to effective competition on every regulated market despite a potentially specific economic situation. Coupling with economic analysis does provide the law with an array of sensors that could address the worries of the economic system, however, the results of this analysis are only applied within the legal system for the purpose of choosing one or more of the more or less pre-set remedies, which are by definition only temporary and need to be regularly reviewed. This explains the difficulties that communications law faces in imposing market remedies as permanent regulatory solutions, such as requirements for functional separation or 'Bill and Keep'[23] settlement systems.

In fact, reflexivity and 'proceduralization' of law,[24] which includes closer co-operation among the regulatory authorities in terms of establishing best regulatory practices, facilitate the coupling of the legal system with the environment, 'connecting the use of administrative power directly with the use of communicative power'.[25] However, as far as legal solutions are concerned, these processes are unable to offer solutions outside the law's own programmes. Notwithstanding the degree of the changes in the environment that trigger the changes in legal programmes, both case studies will demonstrate that the evolution of communications law in relation to NGN is the evolution of the law's own concepts and eventually its internalisation of concepts that stem from other social systems, such as economy or science. While this may sound disappointing to those in favour of a more flexible, market-oriented

[22] See Nihoul, P., Rodford, P., 2004, p. 199-200.
[23] 'Bill and keep' is a wholesale traffic exchange system whereby traffic is exchanged between the operators free of charge.

[24] Teubner, relying on Ladeur, explains this phenomenon as 'proceduralization', which is based on procedural secondary virtues like plurality of options, compatibility of differences, or guarantees of social change via resistance against self-reinforcement of the system. See Teubner, G. in: Teubner, G., Febbrajo, A., *State, Law, and Economy as Autopoietic Systems, Regulation and Autonomy in a New Perspective*,(Dott. A. Giuffre Editore, Milan 1992), p. 611.
[25] Black, J., 2000, p. 613.

regulation, such results are fully in line with the law's expectation-stabilising function in society, providing 'goods and services' that economy itself cannot provide.[26] Whereas new flexible or 'neutral' legal concepts and coupling the economic analysis together with 'proceduralization' speed up the creation of norms based on the law's observations of the environment, this process inevitably remains within the law's own circle of concepts guaranteeing legal certainty of regulation. However, the findings as to these limits resulting from autopoietic closure may prove to be helpful in identifying the need to introduce new legislative concepts from the perspective of the political system.

[26] See Luhmann, N., 2004, p.391.

2 RESEARCH METHODS

It is submitted that socio-legal research would contribute to better and broader understanding of communications law and its development by involving interdisciplinary knowledge.[27] It is further submitted that in order to perform the analysis required, a powerful theory that is clearly able to distinguish between technology, law, politics, economy, and identify the interactions among these areas is required. In the context of socio-legal research, Ziegert proposes the use of systems theory because it is a sociologically thick description that maps society as a whole.[28] This chapter will describe the basic presumptions of this theory as developed by Niklas Luhmanns and Guenther Teubner and will address the strengths and potential weaknesses of using it as the central approach for this research.

2.1 Reasons to choose systems theory approach

Communications regulation by means of legal rules is often seen as an instrument of economic efficiency[29] or, alternatively, public policy[30] utilised in order to achieve better use of network resources, technological innovation and consumer benefits. This implies that economy or politics can use the law in order to reach certain results to their own benefit. According to Bach and Sallet, for example, different legal concepts such as public telephony are linked to different sets of rights and obligations, each with their own distributional and market strategic implications, which inevitably forces the regulators to observe the interests of stakeholders and enter the 'realm of politics', particularly in case of IP-based services where companies from previously distinct industries, i.e. telephone incumbents and ISPs, compete against one another.[31]

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[27] See eg Banakar, R.; Travers, M., 2005, p. xi.

[28] Ziegert, K.A. in: Banakar, R.; Travers, M., 2005, p. 59.

[29] See e.g. Posner, R. A., 2002.

[30] For policy reasons behind telecom regulation see e.g. Walden, I. in: Walden, I., 2009, p. 11.

[31] Bach, D., Sallet, J., 2005, p. 1-4.

Although this view can be used to explain say 'capture' of regulators by certain stakeholders, it neglects the law's autonomous stability and developments, including its internal controls by means of judicial review. From the economic or political science point of view, one cannot easily determine the reasons why legal systems might not keep the full track of the new technologies and business models and why considerable efforts might be required in order to make it more flexible. Describing the law as 'bureaucratic' or 'conservative' tells us little about the law's own operations that make it seem that way to other social systems or individuals.

Systems theory recognises that the legal system performs in the society a distinct function from goal-oriented politics and property-oriented economy. By means of stabilising expectations despite disappointments, the law provides for 'goods and services' that cannot be found in the economic system.[32] This sheds a different light on the law: its failure to 'adapt' to the environment is largely about performing its very function. From the regulatory point of view, this is paradoxical: on the one hand, the law must, as an autonomous system, provide for certainty of the existing business transactions; on the other hand, it is expected to be a progressive, pro-competitive instrument of market regulation.

It is submitted that this paradox can best be analysed if one observes the legal system as a self-referential social system with rather strictly controlled links with the environment. Since the law has achieved as an autopoietic system autonomy from its environment, including politics and economy, its evolution is essentially the evolution of its own concepts. Accordingly, the paradox of 'progressive' yet 'stabilising' law can best be unveiled if one looks at the evolutionary potential of the law's own communications, without a constant reference to their economic efficiency or political desirability.

This does not undermine other socio-legal theoretical research approaches. Against the background of 'structural' tradition represented by the systems theorists, 'action' tradition can provide a valuable insight into the actual functioning of the law.[33] For

[32] See Luhmann, N., 2004, p.391.
[33] See Banakar, R.; Travers, M., 2005, p. 27 and Flood, J. in: Banakar, R.; Travers, M., 2005, p. 33 et seq.

example, Hall, Scott and Hood have used the “ethnographic” approach in order to study “telecoms tribes”.[34] However, it is submitted that systems theory is more fitted to this research due to its focus on legal communications and structures instead of actors involved in the regulatory process.

The relationships between systems theory and other research approaches that will to some extent be referred to in this thesis, namely 'law and economics', the comparative method, legal linguistics and the general theory of regulation, will be described later in this chapter.[35]

2.2 Qualitative research methods associated with systems theory

Systems theory is primarily associated with qualitative research methods although one should bear in mind that qualitative research methods are also used by other research approaches such as ethnomethodology.[36]

As Ziegert points out, qualitative research provides the array of ‘sensors’ which can be employed in order to make the boundaries of the operations of law visible.[37] By contrast he warns against the insensitivity of the quantitative approach to the social context.[38] It is not the intention of this thesis to criticise quantitative research methods. Nevertheless, given the rapid changes in technology and even law, it may not be possible to involve sufficient quantity of data to conduct this type of research. For example, there may only exist one or only a few decisions of a regulator or legislative change dealing with VoIP even in the most developed countries. On the other hand, according to systems theory, qualitative description and comparison of events that are available may provide guidance as to how the law develops.[39]

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[34] Hall, C., Scott, C., Hood, C., 2000, p. ix.
[35] See subchapters 2.9, 2.11 and 2.12.
[36] Banakar, R.; Travers, M., 2005, p. 27.

[37] Ziegert, K.A. in: Banakar, R.; Travers, M., 2005, p. 65.

[38] Ibidem.

[39] See Paterson, J., Teubner, G., 1998.

Since systems theory does not enable the finding of 'facts' except for those constructed by a system, Paterson and Teubner propose the idea of empirical 'mapping' whereby different social systems are mapped separately, replacing direct chains of causality by identifying simultaneous events of structural coupling.[40] Accordingly, when 'mapping' the law as the focus of this research, one can identify those points in the system where its concepts couple with those of other social systems, be it economic analysis, political decision-making, or processes within regulatory organisations,[41] and the evolution of these couplings.

Whereas this does not technically require 'drawing maps', it does require empirical observation, both at the level of legislative solutions and at the level of regulatory procedures, in order to establish which legal communications and in what way couple with other social systems when dealing with the developments in the environment.

Various sources can and will be employed in order to conduct this type of qualitative research: legal and economic theoretical works, legislative texts, including explanatory memoranda, regulatory decisions and opinions, and articles in the media.

Of course, epistemological questions relating to this type of analysis should be addressed. Paterson and Teubner specifically deal with the problem of empirical findings in the context of understanding society as systems, paving the way for qualitative empirical systems theory research. First, an important part of their response is that qualitative empirical findings based on systems theory may not be any less reliable than 'classical' quantitative empirical research.[42] Second, it should be noted that language references identifying structural couplings with other social systems (e.g. 'market analysis') are recognizable in a reliable way in different social systems involved in coupling. Third, since this thesis focuses on the evolution of law and less on its co-evolution with other social systems, there will be no need to test second-order effects of legal changes on the part of other social systems. This in effect only requires identifying structural couplings as they emerge and evolve on the

[40] Ibidem, p. 457 et seq.
[41] Compare ibidem, p. 464-470.
[42] Ibidem, p. 455.

'map' of the legal system, largely avoiding the need for complex multi-dimensional mapping.

2.3 Systems theory and social systems

According to systems theory, the system of society performs through communications.[43] To be more precise, the system of modern society exists as complex differentiated subsystems such as politics, economy, media and law. Law, politics and economy are all subsystems of society as a system. On the other hand, technology is not part of society and forms part of its environment. Accordingly, the existence and use of technical devices must be reflected in society's communications in order to be reflected in law and regulation. In practice, technology-related communications are part of the engineering social system,[44] whereas applied technology is also dealt with by the economy and, depending on the degree of 'juridification', the law.

In the context of systems theory, the law can be studied as a self-referential social subsystem that 'learns' from and responds to other social subsystems, such as economy or politics. As implied in the introduction, this process is not necessarily a simple and self-evident one. It should further be borne in mind that technological issues are likely not to 'enter' the law directly: they may first be reflected in economy and politics. The legal communication, however, is always based on a specific code of legal/illegal[45]. This coding serves as the basis for the legal system's own programmes: the latter are conditional rather than purpose-specific (goal-based) compared to, say the programmes of the political system.[46]

A further crucial element according to Luhmann's theory on law is the function of law. According to Luhmann, the law's only function that can be established empirically is the stabilisation of expectations in time, despite disappointments.[47]

[43] Nobles, R.; Schiff, D. in Luhmann, N., 2004, p. 1.
[44] See e.g. Paterson, J., Teubner, G., 1998, p. 471.

[45] See e.g. Luhmann, N.,2004, p. 173-4.

[46] Nobles, R.; Schiff, D. in Luhmann, N., 2004, p. 21. Luhmann, N., 2004, p. 203.

[47] Nobles, R.; Schiff, D. in Luhmann, N., p. 14.

While this function may not be enough to separate the legal system from the rest of the society's subsystems, it can be used as an important criterion for testing how the evolution can affect this ability.

Social systems are characterised by their 'operative closure': to deal with the complexity of their environment, they develop a limited range of responses and an internal basis for selection.[48] These findings are also valid in case of the regulatory communications law. For example, a regulator may only address market failures addressed by economists, as long as a potential remedy for the problem has been enabled by the relevant legislation governing the regulatory process. Accordingly, the operative closure does not prevent the system from communicating with its environment: the system of law is 'cognitively open'[49] and 'learns' from and responds to other social sub-systems such as economy, politics or media. Nevertheless, in order for a system to exist as a system, communication with the environment must be limited and selective. These limits are of particular importance in the context of a regulatory system that claims to be responsive to the 'actual' market failures.[50] Before a response is possible, these 'actual' market failures must be translated into the code of the system of legal regulation.

Central to systems theory as developed by Luhmann and Teubner is the idea of autopoiesis of the social system and its subsystems, including the law. It is the autopoiesis (or ongoing life) of the legal system that guarantees its specific character compared to, say politics or economy, and preserves law as a social subsystem separate from both. Autopoietic social systems, including the legal system, seek fixed points of their mode of operation in themselves and not in the environmental conditions to which they adapt as best they can.[51] They look for these points in self-description, which functions as a programme of internal regulation.[52] The latter phenomenon can be referred to as self-reference or autopoiesis.[53]

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[48] Ibidem, p. 7.

[49] Teubner, G., 1993, p. 69.

[50] See e.g. Recital 27 of the *Framework Directive*.

[51] Teubner, G., 1993, p. 15.

[52] Ibidem.

[53] Ibidem.

One should note that it is not only the society's function systems such as the law or economy that are autopoietic. In modern legal regulation, various formal organisations, such as regulatory authorities and their associations, are involved. Luhmann points out that formal organisations regulate their boundaries by means of membership and can regulate which actions are considered actions in the system and which actions are to be attributed to the environment.[54] According to Teubner, organisations can be identified by the cyclical linkage of identity and action perfected in the legal person, whereas the action system acquires a hitherto unachieved autonomy vis-à-vis its environment, namely both the external environment of say market or politics and the internal environment of members and others involved in functioning of the organization.[55] Of course, actions of organizations couple with other social systems, such as the law, which means that their acts, e.g. common positions or recommendations, can be legally codified and made relevant to the law.

In relation to the entire society, social subsystems such as law, politics or media represent special cycles of communication that have developed out of the general cycle of social communication.[56] Social systems that have developed a 'thorough' degree of independence can be referred to as second-order autopoietic systems.[57] This is also valid for the legal system in its present form.[58] The latter is constituted by specific communications about legality and illegality which reproduce themselves as legal acts by means of legal acts,[59] without a constant reference to an outside source, say divinity or nature.

Bearing in mind the political and legal component of regulation, it is important to draw a distinction between the legal and the political subsystem in the regulatory field. Luhmann draws a distinction based on the coding of both systems: whereas

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[54] Luhmann, N., 1995, p. 196-197.

[55] Teubner, G., 1987c, p. 20. These characteristics are valid, for example, as regards the ERG, which is able to develop its autonomous positions on regulation of the market, while consulting their own members on the one hand and other stakeholders on the other.

[56] Ibidem, p. 69.

[57] Ibidem.

[58] Ibidem, p. 70.

[59] Ibidem.

politics is characterised by the government/the opposition scheme, the law is based on distinguishing between legal and illegal.[60] Whereas regulation is not a subsystem in its own,[61] but rather a description of the influence of one system upon another, specific regulatory actions normally *can* be qualified as legal (conditional) or political (purpose-specific).[62] They can be either about enforcing the statute (say requiring certain operators to provide emergency access based on the statutory requirement) or about creating new rules with a specific purpose, normally within the powers given to the regulator by the statute (say creating rules for emergency calls for certain operators). However, even purpose-specific regulatory actions will normally belong to the legal system, e.g. as legally-binding decisions.

Accordingly, the limits of the legal system are not established on the basis of certain communication not being part of other social systems (or, say, a 'regulatory discourse'), but rather its coding that can be processed by the legal system. This reveals not only the penetration of law into the regulatory process (e.g. by means of recommendations written in legal form) but also the law's limits when it comes to accommodating ideas beyond the grasp of its code.

2.4 Coding and programming of communications law

As already noted above, according to Luhmann, law is characterised by its specific binary code of legal and illegal.[63] Looking at modern law, one can easily establish that numerous social communications are given a legal status. For example, commercial offers often fulfil the requirements for legal offers or at least for stages in legally recognised negotiations, even if they are not regulated by public law. Accordingly, a request to grant access to facilities such as fibre local loops may be considered legally relevant even in the absence of a public law obligation mandating access to this type of infrastructure.

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[60] Luhmann, N., 2004, p. 378.

[61] On the potential of 'regulation' or 'regulatory process' of becoming a social systems on its own, see discussion below p. 38 et seq.

[62] Ibidem, p. 203-2.

[63] Luhmann, N., 2004, p. 93.

Legal coding is therefore not enough to fully describe the legal regulation of electronic communications. In order to prescribe legal obligations such as regulatory remedies, legal code must be developed into conditional programmes (e.g. by means of statutes). These programmes enable legal decision-making on the basis of legally relevant communications. For example, a request to grant unbundled access to a copper local loop addressed to a relevant telecommunications operator could trigger legal obligations based on the 2000 EC Regulation on unbundled access to the local loop[64] and the regulatory measures issued based on the 2003 Recommendation on relevant markets.[65] On the other hand, a request to unbundle a fibre local loop, despite being seen by the legal system as a valid offer or negotiations, would not trigger such an obligation, because, according to the two documents, there was no obligation to unbundle an optical fibre loop upon reasonable request. Nevertheless, the request to unbundle a fibre local loop could still be considered 'legal', for example as part of 'negotiations' explicitly recognised by both the 2002 EU *Framework Directive* and contract law, as a commercial offer belonging to the economic system, as the evidence of an abuse of dominant position, or as a political proposal to reform legislation.

As laws evolve, not only coding, but also programming changes: the same communications can gain a different meaning and can trigger different conditional obligations. Under the 2007 EC Recommendation on relevant markets,[66] whereby the local access market is defined in broader terms as a market for 'wholesale (physical) network infrastructure access (including shared or fully unbundled access) at a fixed location',[67] there is a possibility to create a public-law obligation to unbundle fibre

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[64] *Regulation (EC) No 2887/2000 of the European Parliament and of the Council of 18 December 2000 on unbundled access to the local loop*.

[65] *Commission Recommendation 2003/311/EC on relevant product and service markets within the electronic communications sector susceptible to ex ante regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services*.

[66] *Commission Recommendation on relevant product and service markets within the electronic communications sector susceptible to ex ante regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services* (Second edition), C(2007) 5406 rev 1.

[67] See *Annex to the Commission Recommendation on relevant product and service markets within the electronic communications sector susceptible to ex ante regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services* (Second edition).

local loops. This can be achieved by following a specific market analysis procedure, whereby an NRA finds that access to fibre loops forms part of the pre-set local access market. According to this scenario, a request to grant unbundled access to a fibre local loop could trigger public law obligations of the relevant operator.

To conclude, commercial negotiations in the area of electronic communications are unlikely to simply be denied legal status as 'noise' not belonging to the legal system. It is unlikely, especially in today's highly 'juridified' society,[68] that the law would simply ignore certain commercial activities and there is likely to be a certain legal 'classification' available to describe them. Nevertheless, the mere fact that the law attributes meaning to certain communications does not deem these communications regulated in the public law sense. This is also consistent with Braithwaite's observation that the law also 'regulates' by means of contract law.[69] Like public law, private law is self-referential, regulating society by means of regulating itself; however, by means of its coupling with the political system, it can still be seen as an instrument by which the state seeks to regulate markets.[70] A similar observation is made by Maher in respect of competition law in relation to stricter 'command and control' regulatory rules, questioning the traditional distinction between regulation and competition.[71] It is therefore the programming and not the coding of the legal system that makes a difference. Accordingly, it is important to note that modern law assigns legal status to numerous communications that do not necessarily correspond to mandatory public-law obligations. Self-regulation may serve as yet another example.[72]

A further difference in coding and programming corresponds to procedural and substantive law. The fact that a communication can be processed by the legal system does not in any way guarantee that the substantive claim it expresses is legally

[68] For the US example see Kagan, R. A., 2001, p. 182. For European examples see Teubner, G., 1987b, p. 6.

[69] Parker, C., Scott, C., Lacey, N., Braithwaite, J., 2004, p. 5.

[70] Collins, H., 1999, p. 37-38 and 56.

[71] Maher, I. in: Parker, C., Scott, C., Lacey, N., Braithwaite, J. 2004, p. 187-188.

[72] According to the general theory of regulation, self-regulation can be seen as taking place when a group of firms or individuals exert control over its own membership and their behaviour. Baldwin, R., Cave, M., 1999, p. 125. One should bear in mind that, according to systems theory, most forms of self-regulation will also be legally 'visible', e.g. by means of written codes of conduct.

justified; in the above case of fibre local loops no mandatory obligation could be found under the 2000 and 2003 acts and no mandatory access could be granted.

By means of its reference to coding, systems theory can see the law as a unified system, which is particularly relevant in today's flexible regulatory system where the programmes change easily, making the traditional border between legal frameworks and legal decisions increasingly blurred. The latter practice can be seen in action through the operation of the 2002 EU regulatory framework. Under this framework there are several ways to introduce fibre loops unbundling into the set of mandatory obligations. First, an NRA or a national court interpreting obligations could decide that the legal system's consistency and its general principles would require the equal treatment of fibre and copper local loops. According to Luhmann, this would show that the law itself has the means of noticing defects and fixing them.[73] Such a result is, however, unlikely, due to the Commission's harmonising and supervisory powers. Second, the Commission may itself recommend that access market for fibre local loops be regulated, which has actually happened by means of passing a Recommendation in 2010.[74] This required not only legal reasoning, but also a political decision by the Commission as a policy-making body. Third, the Parliament and the Council could politically mandate the unbundling of fibre local loops by means of regulation, as was previously the case with copper loop unbundling. The three options show that different programming choices can still result in very similar obligations, all of them part of the legal code.

2.5 Structural couplings instead of direct inter-system inputs

Self-reference and autopoiesis establish a high degree of autonomy of the legal system in relation to other social subsystems such as economy or politics that form its environment.[75] In Teubner's view, the law benefits as a system only if it frees

[73] Luhmann, N., 2004, p. 258.

[74] See *Commission Recommendation of 20.9.2010 on regulated access to Next Generation Access Networks (NGA), C(2010) 6223 final*.

[75] See Teubner, G., 1993, p. 15.

itself from its turbulent environment,[76] which is also a pre-condition for its existence as a social system. This does not mean, however, that law is isolated from this environment, but quite the reverse.[77] While autopoiesis and self-referentiality are crucial in order to establish the law as a stabilized and self-maintaining system,[78] there are constant linkages between the law and other social subsystems by means of 'structural couplings', i.e. regular mutual irritations of the systems that in practice enable one system to detect and process the operations of another subsystem. For example, the economic transaction of payment is detected and processed by the legal system as an act of fulfilling a contract.[79] These couplings do not mean, however, that one system receives a direct input from the other. Instead, the same transaction can be given a different meaning by both systems.

In order to mutually detect each other's developments, however, the systems must irritate each other. In order to make such detection significant, these irritations will generally need to develop into regular, i.e. structural phenomena. For example, a single observation of an economist on how competition law should respond to a certain issue would leave no trace in the legal system. However, if such observations are regularly admitted to legal proceedings by the legal rules, they could become part of an individual decision or even established legal practice, e.g. as a regular reference in competition law to economic market analysis in order to establish market power. Luhmann identifies two crucial structural couplings between law and politics and law and economy: constitution and contract.[80] Whereas political inputs are admitted to law by means of a legislative procedure (as set by the constitution or its equivalent, say the EU Treaty[81]), the concept of contract binds economic and legal transactions. Both of these couplings as known today are results of historic evolutionary developments.[82]

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[76] Ibidem, p. 33.

[77] Ibidem, p. 26.

[78] Ibidem, p. 15.

[79] Luhmann, N., 2004, p. 395 et seq.

[80] Luhmann, N., 2004, p. 399, 404.

[81] On European constitutionalism see Weiler, J. H. H., 1999.

[82] Luhmann, N., 2004, p. 385-412.

However, structural couplings lead us to the crucial question linked to autopoiesis: how precisely can outside systems such as economy (and its underlying theory) or politics influence law if the latter is caught up in ”its own circle”?[83] Similarly, how can law be used as a means of regulating the rest of society? One should first recognize that the legal system cannot be regulated directly from the outside.[84] The same is valid for other social subsystems, such as economy or politics, and for technology that lies outside of society's communications. In fact, one can show that the coupling mechanisms are also the key driver of the systems' (co-)evolution as they enable communications from one subsystem to be at the disposal for reception of the other subsystem, therefore making its internal changes possible. If coupling is regular (i.e. structural), the probability for a change is higher. However, despite this, processing information from other subsystems within the legal system remains an internal operation of the legal system. Equally, including legal rules into business models and calculations remains an operation of the economic system.

Structural couplings, i.e. couplings where the legal system presupposes certain features of its environment on an ongoing basis,[85] make the system cognitively open and are therefore important signs of the evolution of law in relation to its environment. In other words, law may regularly run into communications (or irritations) from other subsystems, say by political proposals to radically change its foundations. However, in certain cases, these communications (or irritations) are recognised by the system and enable its regular links with other subsystems. Accordingly, structural couplings on the one hand reduce and on the other hand facilitate the influences of the environment on the system.[86] Nevertheless, Luhmann warns that, despite structural coupling mechanisms, the communications from other subsystems are not direct 'inputs' for the system, as they do not use the system's binary code.[87] Before they are 'digitised' by the system itself, they can in principle only trigger "irritations, surprises, and disturbances".[88]

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[83] Teubner, G., 1993, p. 71.

[84] Ibidem, p. 77.

[85] Luhmann, N., 2004, p. 382.

[86] Ibidem, 2004.

[87] Ibidem, 2004.

[88] Ibidem, 2004.

This should not be misunderstood, however. Since structural couplings enable certain communications from other subsystems to be regularly seen on the law's own "video screen"[89] in a specific form written in its own code and *vice versa*, a notable degree of alignment between subsystems is possible provided that "translation" can be made by means of (existing or newly emerging) structural couplings.

2.6 Systems theory as a tool of explaining legal evolution

It is precisely the idea of autopoiesis that can explain legal evolution. Without a relative closure of the system, the system cannot be identified as a system and therefore cannot perform as such. Similar to organisms, social systems (not groups of humans, but rather groups of communications) develop an internal basis for selection that allows them to develop more complex internal responses to their environment.[90] Similar to evolution in biology, the mechanisms of variation, selection, and stabilization (retention) play a crucial role in the evolution of social subsystems.[91] Systems theory can be viewed in parallel with the theory of legal memetics.[92] The latter sees the legal communications as memes that, similar to genes of living organisms, possess a 'selfish will' to survive in their form.

The views of systems theorists on the evolution of law are not united[93] on the issue of how exactly the law can evolve in relation to other social systems and how other social systems can be influenced by law. This is linked to the question whether autopoiesis is absolute, as Luhmann seems to argue, or are there, as suggested by Teubner, varying degrees of it.[94] In either case, variation, selection and retention of communications as the elements of the law's evolution are internal to the law as an autopoietic social system. The law's code and programmes, e.g. case law or statutes,

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[89] See ibidem, N., 2004, p. 383.

[90] Nobles, R.; Schiff, D. in Luhmann, N., 2004, p. 7.

[91] Luhmann, N., 2004, p. 232.

[92] See Deakin, S., 2002.

[93] Whereas Teubner favours a co-evolutionary approach, Luhmann clearly rejects the idea that the environment can really 'determine' law. Luhmann, N., 2004, p. 258.

[94] Teubner, G., 1993, p. 76.

can only be changed in the legal form. If one explores the evolution of law in relation to the environment, however, one can note that these legal changes can take place while coupling with other social systems: for example, statutes are changed based on political decisions and judges can 'translate' economic experts' opinions into their judgements.

Teubner identifies information and interference as the two mechanisms which ensure that operatively closed social systems remain cognitively open[95] and consequently influenced by other systems. While an autopoietic system cannot be directly controlled from the outside, its changes can be 'triggered off' from its environment.[96] These outside factors, however, are according to Teubner never a direct cause of change, as the legal system has developed its own mechanisms of variation, selection, and retention: only those political, economical or other social pressures that appear on the 'internal screens' of the legal system can have an innovative effect within the legal system.[97] As Teubner further points out, in order to trigger variation, outside impetuses must pass through the 'eye of the needle' of operations within each of the subsystems.[98] For example, an economic expert challenges economic implications of a legal doctrine on market dominance and this view is later presented by a party to competition law proceedings. Selection means the emergence of structures out of the interaction form by exposure to the selection of the different autopoietic systems.[99] For example, the said opinion is actually admitted by the court as a valid defence in a competition case, whereas other economists study its economic implications. Retention happens by means of adaptation of these structures to the various philosophies and dogmatics of the subsystems.[100] For example, the said decision is admitted by higher courts and becomes part of case law, while economists regularly use it in their analysis for competition proceedings purposes. This process can be referred to as co-evolution of the social subsystems.[101] It can be used as a tool

[95] Luhmann, N., 2004, p. 97.

[96] Teubner, G. in: Teubner, G., 1987, p. 233.

[97] Ibidem.

[98] Ibidem, p. 236.

[99] Ibidem.

[100] Ibidem.

[101] Ibidem.

to explain mutual influence and development of various social subsystems such as law, politics, media, and economy. However, it should be noted that this thesis will focus on the evolution of law and not on simultaneous (co-)evolution of other mentioned subsystems.

Luhmann seems to reject the idea that some 'higher meaning' should be attached to the process of evolution,[102] and Teubner further stresses that one is in principle dealing with "blind legal evolution".[103] 'Blindness' here does not refer to the absence of specific intentions of legislators and regulators, but the double difficulty that human consciousness does not directly influence social systems and that different social systems cannot directly influence each other.[104] Nevertheless, Teubner does mention the cases of 'regulated co-evolution' by intentionally established intersystem systems of negotiation.[105] This pattern can, for example, be recognised in consultations of legislative or regulatory public bodies with the industry.

Evolution is usually explained by means of the distinction between ontogenetic learning that takes place in individual proceedings of legislation, administration, and adjudication on the one hand, and the phylogenetic evolution of the system as a whole on the other. This difference can be interesting for understanding the evolution of communications law: for example, a specific regulatory decision may deal with VoIP in a technology-neutral or technology-non-neutral way. However, there must be a series of IP/NGN-related regulatory decisions in order to establish whether the law is developing towards greater technological neutrality or not. It should be noted, however, that the EU regulatory framework, which is subject to reviews every couple of years, makes it difficult to distinguish between phylogenetic and ontogenetic change. Hence, interpretation will depend on the viewpoint: a single regulatory decision may be compared to a change in the legislative framework, whereas a change in the framework may be compared to an essential change in the principles of the framework.

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[102] Luhmann, N., 2004, p. 267.

[103] Teubner, G., 1993, p. 47. On the other hand, Luhmann rejects the idea that the evolution linked to the law's self-promotion would be blind. Luhmann, N., 2004, p. 259.

[104] See Teubner, G., 1993, p. 59.

[105] Teubner, G. in: Teubner, G., 1987, p. 237.

In order to study the phylogenetic evolution of law, it is therefore useful to distinguish this process from the events that occur in specific regulatory proceedings on a daily basis, i.e. ontogenetic learning in the proceedings forming the legal system.[106] For example, for the purposes of this research, one must avoid placing significant importance on the fact that IP technology and IP-based business models have been processed by the legal system. At the end of the day, the mere fact that the law addresses these issues on a daily basis would not justify this research. The general shift to IP technology and NGN in modern communications triggers a more important question as to how far this shift has resulted in important, general and permanent changes on the part of the communications law.

One should not argue that there is a mechanism that could empirically and reliably distinguish between the ontogenetic learning and the phylogenetic evolution. The main reason is the artificial nature of the application of this concept to social systems. Unlike biological organisms that possess their own memory, which ceases to exist as a consequence of their death, the results of specific legal proceedings are usually recorded and can easily be used in other legal proceedings, either directly as precedents (which would also mean phylogenetic change) or indirectly, as a source of knowledge used to reach or simply explain a result in other proceedings.[107] Accordingly, it is more appropriate to use the said distinction in a metaphorical sense, in order to distinguish minor and daily changes in legal communications from more fundamental changes in legal rules and principles. There is, however, a reason for trying to draw a distinction: while the first type of changes cannot easily be explained without detailed knowledge of the circumstances of a specific case (including factors such as the regulator's personnel's private views and political influence), the second type of changes possesses the ability to be more readily linked to the events in the environment.

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[106] Teubner, G., 1993, p. 59-61.

[107] Teubner suggests individual proceedings as ontogenetic units, but the difference between selection as phylogenetic category and ontogenetic learning of single proceedings as an individual system is not entirely clear. Accordingly, it is preferable to argue that this is primarily a metaphorical tool. Teubner, G., 1993, p. 60-61.

In any case, one should be warned that what appears as ontogenetic learning of the social systems may, unlike in the case living organisms, result in memes that can be re-used by the legal system and can therefore become part of its autopoietic cycle.[108] This can either be legally institutionalised (e.g. by means of the system of precedent) or can simply take an informal form (e.g. as established practice).[109]

To conclude, while it should be borne in mind that systems theory may not be able to explain particular phenomena such as an individual regulatory decision on the treatment of VoIP,[110] it is a valuable tool for understanding the evolution of telecommunications law in its entirety[111] by means of clearly identifying the boundaries of the legal system and its links with the environments with which it interacts.

2.7 Synchronisation of communications law with other subsystems

If one adopts systems theory approach, one cannot presume the synchronisation of the legal system with its environment, namely the business transactions of the economic system, the power relationships of the political system, or the development of technology of the scientific system. However, the legal system's perception of technology and economy may be crucial in getting to understand how the developments in technology and business models can ultimately affect the developments in law. As already mentioned, these developments must appear on the law's 'internal screen', which can happen either by means of direct processing of these developments by the regulators and courts, or alternatively by means of these developments first being coded in legislation by means of the parliamentary process. Despite the finding that the latter process is primarily a political process, drafting

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[108] See Deakin, S., 2002.

[109] Such a process may be facilitated by means of a regulatory process that enables a more efficient flow of information. For example, legal practices of the NRAs may be re-used by means of inclusion and reference to ERG principles and best practices. See eg 'ERG Common Position on Best Practice in Bitstream Access Remedies Imposed as a Consequence of a Position of Significant Market Power in the Market for Wholesale Broadband Access ERG(06)69Rev1' (2006) Available at www.erg.eu.int/doc/publications/erg_06_69rev1_wba_cp.pdf, 2nd March 2008.

[110] See Teubner, G. in: Teubner, G., 1987, p. 226.

[111] Ibidem.

means describing the environment in a legal form and therefore also amounts to an operation of the legal system.

Nevertheless, the fact that the law is coding its environment in order to process it does not mean that it is receiving direct 'inputs' from the environment.[112] Due to autopoiesis, there can be no direct inputs. If one looks at operatively closed systems, there can be only irritations. Instead of reproducing itself in the same manner as it did before, the legal system is confronted with an irritation from the outside. It will detect this irritation and may eventually change because of it, but the irritation will still be processed by the system itself and not by its environment.

The concept of irritation explains why the coupled systems react to irritations at different speeds.[113] The speed of the response depends on the structure of the system,[114] which makes it impossible for, say law and economy to react to a change in technology at the same time. As Deakin points out, the evolution of law is 'asynchronic', whereby *close* alignment between the state of the law and that of the economy is the exception, not the rule.[115] Whereas economy may rather quickly develop a new retail product based on new technology, the law may need to resort to lengthy parliamentary procedures or at least complex court proceedings in order to find answers to a technology-related question. Even if the law can generally be perceived as open to its constant change in relation to technology, as is the case with the EU regulatory framework, the change may take a considerable amount of time.[116]

2.8 Self-promotion, juridification and proceduralization

Possible responses of communications law to changes in the environment by changes in its programming vary to a large extent. As it will be shown, law can face certain issues in the environment by relaxing its conditional rules and allowing for more

[112] Luhmann, N., 2004, p. 382.

[113] Luhmann, N., 2004, p. 383.

[114] Ibidem.

[115] Deakin, S., 2002, p. 37.

[116] The reform of the NRF was initially presented by the Commission in 2006. However, the proposals have only reached the Parliament and the Council in the beginning of 2008.

discretion. It can further offer its existing concepts from one area of law to deal with a specific new issue in another area, as is the case with the introduction of competition law concepts into sector-specific telecommunications law. However, the example that will be studied during the course of this research give us little guidance as to why the law would adapt to its environment instead of choosing to become obsolete. It is submitted that one part of the answer is given by Luhmann and the other part by Deakin.

According to Luhmann, the legal system is no longer waiting in the wings for people to engage in a dispute in order that it can find a legal solution.[117] Instead, the law itself produces situations which trigger off conflicts by regulatory manipulation of everyday life.[118] Thereby, the law promotes itself.[119] Luhmann links this with the proliferation of legislation, which is based on the democratization and the constitutional channelling of political influence through legislation.[120] This phenomenon largely corresponds to 'juridification', i.e. legal coding of the environment not previously regulated by law.[121]

However, a more specific view on the legal system's self-promotion can be extracted with a reference to legal memetics as provided by Deakin. The law of economic regulation is nowadays increasingly moving from a 'command and control' to a 'reflexive' approach, whereby the law already 'thinks about' the conditions for its own application in business practice. This means that the law itself already aims at inducing desired second-order effects on the part of economic system.[122] For example, as 'law and economics' theories become part of the legal doctrine, law is

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[117] Luhmann, N., 2004, p. 259.

[118] Ibidem.

[119] Ibidem.

[120] Ibidem, p. 259-260.

[121] Though one shall understand 'juridification' as a neutral term explaining the law's response to the environment, it is not an easy word: in his 1987 work, Teubner explicitly refers to it as 'ugly'. He links it with Jacoby's concept of 'bureaucratization of the world' and Habermas' theory on 'colonization of the life-world' and relates it to the modern 'regulatory law', which is structurally coupled with politics on one hand and the regulated social field on the other. Teubner, G., 1987b, p. 3-5. This very type of law is also subject to Weberian concept of 'materialization of formal law', which results in a 'flood' of (substantive) norms. Ibidem, p. 5,10.

[122] Deakin argues that the possibility arises that learning about evolution itself will become a property of the legal system. Deakin, S., 2002, p. 39-40.

pre-programmed to respond to economic events in terms of its own version of what constitutes efficiency. Through such developments, the law increasingly gains the capacity to respond to other social systems. This largely corresponds to the concept of "responsive regulation".[123] This is, for example, reflected in the finding that various business models have been developed on the basis of regulated products such as bitstream or local loop unbundling.

Another key evolutionary development in today's regulatory law is increased responsiveness, which is closely linked to the phenomenon of 'proceduralization', whereby the process of reproduction and justification of substantive legal norms is subject to procedural virtues, such as maintenance of plurality of options, which also enables a higher degree of the law's reflexivity of the environment.[124] The phenomenon of 'proceduralization' was in practice observed by Born and Goldschmidt, who analysed legal regulation of the risk related to off-shore installations. They pointed to the openness of regulation in substantial issues and 'proceduralization' of risk debates.[125]

The concept of proceduralization, like self-promotion and juridification, can be observed in the specific context of communications law and will be helpful in explaining its evolution. This exercise was carried out in 1998 by Scott, who noted there was a shift in terms of replacing highly technical rules with more general norms, in terms of greater emphasis on the procedures, and in terms of more general regulatory institutions.[126] With a reference to voice telephony and wholesale access and interconnection regulation, these major observations of his work will be compared to recent developments in EU law.

However, in this thesis, the emphasis on the degree of 'thickness' of EU communications law's 'proceduralization' shall be avoided:[127] for the purposes of systems theory analysis of law, proceduralization should be understood as increased

[123] Ayres, I., Braithwaite, J., 1992, p. 4.

[124] Teubner, G., Febbrajo, A., 1992, p. 611.

[125] Born, A. W., Goldschmidt, L. B., 1997, p. 33.

[126] Scott, C., 1998, p. 244.

[127] See Black, J., 2001, p. 35 et seq.

structural coupling of regulatory law with other social systems by means of using open-ended legal procedures, without specific implications as to the evolution of deliberative democracy.[128]

2.9 Systems theory and the theory of regulation

The instrumental mentality associated with the term 'regulation' is about influencing the behaviour of people to accomplish particular social objectives.[129] In this sense, communications law is generally seen as a regulatory law.[130] Accordingly, reference to regulation is not only useful, but also necessary in order to establish how successful the law is in regulating the electronic communications business, and, on the other hand, the primary interest for this research, how the law itself can be influenced by or adapted to the regulated field. Studying these mutual relationships among social systems is particularly important if one recognises that other forms of social regulation such as self-regulation of the economic system exist in parallel with law;[131] it is therefore worth asking how law itself is regulated by other forms of ordering, that is, how it is modified when coupled with other social systems so that the actual effects of the law might be quite different from those intended.[132]

In its essence, systems theory can be used to enrich the general theory of regulation, with one important difference, namely that it shifts the focus from the network of actors (e.g. regulators and stakeholders) to the system of communications. In this function, it is often referred to in the modern theory of regulation as a useful concept to understand legal regulation.[133] For example, systems theory can be used to explain

[128] Ibidem, p. 57.

[129] Parker, C., Scott, C., Lacey, N., Braithwaite, J., 2004, p. 5.

[130] As telecommunications or, as lately referred to, (electronic) communications law means a specific market activity, the law governing them can easily be associated with a specific regulatory intent, compared to traditional legal areas of doctrine, such as contract law. Parker, C., Scott, C., Lacey, N., Braithwaite, J., 2004, p. 5.

[131] According to the general theory of regulation, self-regulation can be seen as taking place when a group of firms or individuals exert control over its own membership and their behaviour. Baldwin, R., Cave, M., 1999, p. 125. This definition is generally not inconsistent with systems theory view. However, one should bear in mind that, according to systems theory, most forms of self-regulation will also be legally 'visible', e.g. by means of written codes of conduct.

[132] Parker, C., Scott, C., Lacey, N., Braithwaite, J., 2004, p. 7.

[133] See Moran, M., 2007, p. 71. Parker, C., Scott, C., Lacey, N., Braithwaite, J., 2004, p. 7, 10.

the limits of legal regulation in late modern states and the corresponding resort to non-legal forms of regulation.[134]

One should reject the idea that (tele-) communications regulation as a whole is at this stage of development an autonomous autopoietic subsystem. First of all, this is due to its constant reliance upon the legal rules, the political decision-making process, and the economic analysis. Accordingly, too many external points of orientation are sought on an ongoing basis. Whereas self-regulation may seem like a self-contained regulatory system, one should be warned that even self-regulation is likely to consist of *legal* rules set by the parties themselves.[135] In addition, it often relies on 'sunset', 'sunrise' and similar clauses established by state laws. Moreover, political, legal or even self-regulatory communications on regulation are not sufficiently interlinked to form a unified system, particularly because it is not possible to identify them by means of a common reference that would distinguish them from other communications. Therefore there is no reason to treat regulation as an autopoietic subsystem with its specific code.

If one should properly define the term 'regulation', one can observe that it is used by the legal, the political, the economic and the media system, and also in general social communications.[136] Teubner also does not seem to give 'regulation' a specific status, but uses the term to describe the influence of one system upon another.[137] The term regulation will generally be used in the same way as it is used by Teubner. Such use is also consistent with the general understanding of scholars of regulation who see regulation as the intentional activity of attempting to control, order or influence the behaviour of others, [138] in doing which it can describe the mutual relationships of human beings, institutions or social systems. Regulation incorporates the setting of standards, processes for monitoring compliance with the standards, and mechanisms for enforcing the standards.[139]

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[134] Parker, C., Scott, C., Lacey, N., Braithwaite, J., 2004, p. 7.

[135] See eg Teubner, G., 1993, p. 93-4.

[136] See eg Parker, C., Scott, C., Lacey, N., 2004, p. 1.

[137] See Teubner, G., 1993, p. 64 et seq.

[138] Parker, C., Scott, C., Lacey, N., Braithwaite, J., 2004, p. 1.

[139] Ibidem.

One should note that the term regulation does not only refer to the influence of one system on another, but also to the internal regulatory mechanisms of one system. For example, regulation is not seen as limited to state interventions in the economy, but, as already noted above, includes self-regulation.[140] As there is no way one autopoietic system could directly exercise control over another, regulatory operations of one system must be internalised by the other, i.e. must be detected and at least to some extent processed by it. For example, legal regulation must be internalised by the economic system driving the sale of telecommunications services in order to produce the desired effect in terms of consumer choice and price. If this 'internalisation' was excluded from the understanding of the regulation, this research would only be about the unsuccessful types of legal regulation. However, when one deals with self-regulation of the business community, one should note that there is:

- self-regulation that is perceived by the legal system as having legal character; and
- self-regulation that internally regulates the operations of the economic system, but is not juridified i.e. does not take the form of legal code.[141]

In order to refer to the whole body of ongoing communications connected with the passing of regulatory legal acts or introducing self-regulatory practices, for easier understanding, the term 'regulatory process' has been introduced. This does not mean that these communications can be identified by a single code and self-reference. For example, there is no common reference between self-regulating good practices of UK ISPs and *ex ante* regulatory remedies under the US Telecommunications Act 1996. Though both can be described as 'regulation' from the point of view of an external observer, the first primarily sees itself as part of business practice, whilst the second takes the form of a legal act. Accordingly,, the term 'regulatory process' will only be used for the purpose of identifying all potentially relevant communications referring to telecommunications regulation that may belong to various social subsystems.[142]

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[140] Ibidem.

[141] Moran, M. 2007, p. 68.

[142] See e.g. Born, A. W., Goldschmidt, L. B., 1997.

2.10 Mapping the regulatory process

Compared to, say discursive analysis, exploring the law or even communications law in regulatory practice requires isolating legal communications from other communications that take place within a certain visible discourse, say public debates on future regulation of the internet.[143]

This requires one to determine how communications law fits into the context of regulatory organisations and procedures and how its concepts connect to those of the (regulated) economic system and the political system that tends to regulate economy by means of the law.[144] In this context, it should be borne in mind that communications belonging to the legal system may simultaneously also belong to other systems such as economy or politics. For example, the statement that certain services must be regulated can be perceived as legal, political and economic.

When deciding which communications about regulation belong to the legal system, one should start with the premise that the law only accepts arguments that are perceived by the legal system itself as legal. This may sound tautological, but no matter how much academics, interest groups, or lobbyists try to influence law, they can only do so in the form understandable to the legal system. Accordingly, if a communication refers to regulation of electronic communications (and does not imply a purely economic self-regulatory solution or regulation by means of technology itself[145]), it must ultimately at least touch upon a legal solution in order to

[143] A degree of cautiousness is required before linking a discourse with the legal outcome of regulatory proceedings. Many communications, despite relating to communications law, e.g. casual debates or even many academic opinions, are unlikely to have direct access to institutions and procedures being able to affect legal obligations. For this reason, systems theory approach produces more reliable results. Compare Luhmann, N., 1997. This limitations can also be compared to the rules on identifying discourses as suggested by Born and Goldschmidt. According to them, when communicative practices create patterns that link them internally, but separate them from other patterns externally, one can classify them as discourses. These patterns can be identified empirically by their topics, language, norms, or participants. Born, A. W., Goldschmidt, L. B., 1997, p. 27. However, such a discursive analysis may not be sufficiently precise, whereas also its empirical value to analyse legal developments is questionable. Primarily, it was not intended to empirically classify the law by its topic, language, norms, or participants. Law as a self-referential system does not need to distinguish itself from its environment by any of these.

[144] Teubner, G., 1993, p. 71.

[145] Such as e.g. technical measures to protect copyrighted works.

have a chance of success. Of course, this does not render legal mistakes or even intentional breaches of law by the regulators and their staff impossible. Notwithstanding such deviations, however, judicial review by the courts that lie in the centre of the legal system[146] ultimately provides for the system's internal consistency.

In order to make this premise a useful starting point for research, one should look at those communications that can be perceived as belonging to a subsystem such as economy or politics, but can at the same be made visible to the legal subsystem for the purposes of its own processing. For example, stakeholders and their organisations may express views on future regulation, say on efficient regulation and balancing interests in the communications market.[147] Views on (legal) regulation can also take a scientific form, say in academic writing on the requirements for regulation in the fast-changing technological and business environment. Examples include economic studies on wholesale access obligations to provide IP-based services.[148] If the array of sensors developed by law is broad enough, law can even detect and process certain media debates on the role of regulation, say on the consequences of regulation as to the openness of the internet.[149]

The interplay of these communications and their visibility by various social systems produces a highly complex picture of regulation. One can identify five theoretical options, whereby regulatory process can be interpreted as:

- part of the periphery of the legal subsystem;
- political decision-making of public administration;
- an interface to resolve intersystemic conflicts;
- a co-evolutionary process of various social subsystems;

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[146] Luhmann, N., 2004, p. 293.

[147] These views can be expressed in public consultations but also in documents such as ERG reports, such as e.g. *ERG Report on 'VoIP and consumer issues', 2006, ERG (06) 39*, or *Final Report on IP interconnection, 2007, ERG (07) 09*, ECTA positions and regulatory Scorecards, such as 'Regulatory' and 'Broadband' Scorecards, ETNO Common Positions, and various types of stakeholders' lobbying communications.

[148] See e.g. Cave, M., 2004 or a broad Ofcom's monography Richards, E., Foster, R., Kiedrowski, T.- ed., 2006.

[149] Despite not being part of the UK and the EU regulatory framework, net neutrality, originally an issue in US political and media debates, has been addressed by Ofcom in their communications with the media. Ingram, P., 2006.

- an autonomous autopoietic social subsystem.

Whereas the courts are located in the centre of the legal system,[150] the periphery (e.g. communications made by legal departments in businesses and public administration or legal consultants) makes more readily visible to the law outside elements, such as said changes in technology and economy. For example, a factual problem of market competition can be presented by the industry to a law firm. Accordingly, Luhmann points out that the periphery is particularly suited as a zone of contact with the other functioning systems of society.[151] There is accordingly an option to fit the regulatory process into the law's periphery as a 'melting pot' for economic, political and legal statements on regulation.

However, one should be warned from overly simplified conclusions, as the law must maintain its autopoiesis both at its centre and its periphery. The mere fact that most of regulatory cases handled by the periphery are not brought to the attention of the courts does not change the fact that even the periphery of law considers the courts to be the able to always give final answers as to legal programmes. Accordingly, regulatory proceedings that generally take place with the regulators, i.e. in the periphery are not able to disregard the centre and dismantle legal autopoiesis by introducing the code of another social system. Therefore, legal decisions that take part in the periphery, e.g. decisions of regulatory authorities, can ultimately be challenged in the centre, i.e. at the courts.[152] Nevertheless, the periphery must be able to filter out communications that do not use the code legal/illegal and it must do so more regularly than the centre.[153]

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[150] Luhmann, N., 2004, p. 293.

[151] Ibidem.

[152] This is further corroborated by the EU regulatory framework that explicitly requires the option for appeal, which is likely to be addressed to the Member States courts. See Article 4 of the *Framework Directive*, see Appendix. Similarly in the US, there is judicial review by federal courts of the FCC actions. See Lee, K.; Prime, J. in: Walden, I.; Angel, J., 2005, p. 525.

[153] For example, ERG Common Positions often use the wording such as 'may be implemented' or 'should consider'. See e.g. 'ERG Common Position on Best Practice in Bitstream Access Remedies Imposed as a Consequence of a Position of Significant Market Power in the Market for Wholesale Broadband Access', *ERG(06)69Rev1* (2006) Available at www.erg.eu.int/doc/publications/erg_06_69rev1_wba_cp.pdf, 2nd March 2008. Such language can be used to directly support discretionary legal decisions made by the regulators that are ultimately programmes based on the code of legal and illegal. At the same time, these documents also involve direct descriptions of technical and economic terms.

However, the regulatory process does not always focus on finding purely legal solutions. Quite often the rhetoric used in regulatory discussions may be very different compared to legal rhetoric.[154] In this respect, many communications taking place in relation to regulation such as reports or academic papers do not even bother about specific legal outcomes.[155] This leads us to the conclusion that the regulatory process is not a purely legal process that would be conducted in the legal periphery and would sometimes result in the decisions by the centre. Instead, elements of this process can (simultaneously or exclusively) belong to other subsystems.

Furthermore, Luhmann classifies decision-making by administrative bodies as purpose-specific political communications.[156] Like the rest of public administration, regulatory authorities can be seen as the agencies pursuing certain goals set by politics, i.e. implementing political programmes.[157] If the political goal is say de-regulation, the administrations will find legal means to pursue this goal, but the legal means will be relatively unimportant for their operations. In this context law will be perceived as an instrument of political regulation of other social systems or even as an obstacle for achieving political goals.[158] Similarly, the European Commission also

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[154] Compare Born, A. W., Goldschmidt, L. B., 1997, p. 37. The authors argue that, in the case of the regulation of risk at off-shore installations, the role of legal language in the discourse is modest.

[155] Unlike the ERG Common Positions mentioned above, other ERG documents are not directly concerned with specific legal solutions. Despite being prepared by an organisation with a specific status under the EU law, ERG reports and responses to them do not have any direct legal consequences. What is legal about them is the mere fact that they were adopted under the ERG legal procedure and are therefore given a certain status in the legal system. However, their content can hardly be described as legal coding of the environment. See e.g. 'ERG Report Mobile access and competition effects, ERG (06) 45' (2006) Available at www.erg.eu.int/doc/publications/erg_06_45_report_on_mobile_access_market_competition.pdf, 8th August 2008. Such documents can include simple observations on legal obligations e.g.: "In some other member states (Switzerland, Denmark, Netherlands and to some extent Norway and Italy) there is an obligation for providers of telephony services to terminate emergency calls trough the USO provider's electronic communication network." 'ERG Report on 'VoIP and consumer issues' ERG (06)39' (2006), p. 9. In addition, they can also include purely technical observations e.g.: "In most NGNs run by incumbents, transport is separated from the control level (signalling etc.) and services tend to be provided using centralized platforms (Media Gateway, Softswitch)." 'Final Report on IP interconnection ERG (07) 09' (2007). Similarly, academic writing on regulation, though implying legal intervention, may not even address specific legal actions. See e.g. Cave, M., Mason, R. 2001. The authors refer to regulation in very vague terms (e.g. access to the local loop) and do not quote any specific legal solutions.

[156] Luhmann, N., 2004, p. 374.

[157] Luhmann, N., 2004, p. 374.

[158] This understanding of public administration tasks most clearly corresponds to the classical Cartesian-bureaucratic decision-making style that is also the starting point of Hall, Scott and Hood's

performs its regulatory tasks based on political motives,[159] say by issuing recommendations with clearly political tasks.[160]

Nevertheless, both the relative independence of regulatory bodies based on economic reasoning[161] and the broad discretion granted to them by modern regulatory frameworks seem to result in a changing pattern of regulation. Furthermore, Hall, Scott and Hood also identify a bargaining-diplomatic regulatory decision-making style,[162] which implies more interaction with the environment and less direct application of political programmes. If the regulators consult the industry and user groups[163] about what they should do on a regular basis, there is less chance for them to directly follow the pre-set political programmes of the law-makers.

In order to reconcile legal, political and economic aspects of the regulatory process, Teubner's theory on intersystemic law of conflict can be used.[164] Teubner offers the law as a dispute-resolution mechanism for conflicts between various social subsystems, including functional subsystems, such as politics, economy, science and culture.[165] However, the problem with this approach is put forward by Teubner himself: can the law develop conflict rules which counteract juridification through the process of juridification itself?[166] In other words, if there is a conflict between the legal system and the economic theory (say that the first requires unbundling only for copper pairs, whereas the latter would support technology-neutral unbundling), can the law find a way to objectively adjudicate between its own perception and the

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analysis of Ofcom's performance of its tasks. Hall, C., Scott, C., Hood, C., 2000, p. 126 et seq.

[159] About the political character of the Commission, see Spence, D., 2006, p. 512.

[160] The recommendation on NGA, for example, clearly puts forward political goals as to facilitation of investment and equivalence of access with no prior economic or legal analysis. *Commission Recommendation of 20.9.2010 on regulated access to Next Generation Access Networks (NGA), C(2010) 6223 final*.

[161] Independent regulation is justified as long as it is about the maximization of aggregate welfare. Elected politicians, on the other hand, should deal with the redistribution of resources and should not be attempting to regulate directly. Majone, G. in: Hayward, J., Menon, A.-ed., 2003, p. 311.

[162] Hall, C., Scott, C., Hood, C., 2000, p. 172 et seq.

[163] Ofcom's Consumer Panel Regulatory Toolkit may serve as an example of end-user involvement in regulatory decision-making.

[164] Teubner, G., 1993, p. 100 et seq.

[165] Ibidem, p. 109.

[166] Ibidem, p. 109-10.

perception of another, in this case economic subsystem? The question is far from being irrelevant, as it leads us back to the very problem of the operative closure of the legal system. The merits of the 'dispute resolution' decision will always be set by the legal system and any rule of adjudication between the legal and the economic system will necessarily belong to the legal system, which prevents the law from becoming an ‘almighty’ system for resolving the disputes within the society.

However, Teubner’s idea seems worth of further exploration. Whereas the law is increasingly able to respond to other social systems,[167] it may also become increasingly recognised by these systems as the system for conflict resolution. If the economic system invents an image of law as a system of resolving its conflicts with, say politics, this would indicate intensive structural coupling among the three systems. For example, businesses may perceive it as part of their strategy to rely on the regulators to settle disputes between politically motivated definitions of relevant markets by the Commission or the NRAs and the economic analysis of supply and demand in actual business transactions, which may result in different relevant market definitions. In this case, it would be an over-simplified solution to talk about regulation only in legal terms, as economy and politics may have a means of describing the same regulatory phenomena from their own perspective. This, however, requires that the same regulatory communications are visible and can be simultaneously attributed to various social systems.

Accordingly, while law evolves, other subsystems also evolve. When one studies the evolution of law as part of the regulatory process, this implies co-evolution of other subsystems. According to Teubner’s understanding of co-evolution of social systems, the regulatory process could as well be understood as a co-evolutionary process involving various social systems, their co-variation, co-selection, and co-retention.[168] In Teubner’s understanding, there are impulses to variation which stem from these various systems. These must pass through the 'eye of the needle' of the singular interaction, and can then exert pressure on each other for change as parts of systems

[167] Deakin, S., 2002, p. 40.

[168] Teubner, G., 1993, p. 62.

that reciprocally influence each other.[169] The theory of 'ladder of investment'[170] actually applied in today's regulatory practice has in practice found its way from economic theory[171] to business practice and, by means of market analysis as structural coupling, to the law. By means of co-selection, it can actually be used by a company planning market entry or a regulator creating pricing obligations in markets for bitstream and unbundled local access. By means of co-retention, it may well become part of a general legal doctrine of communications regulation.[172]

An important warning should therefore be given that a large group of communications that appear during the regulatory process do not necessarily constitute a unity. Instead, these communications can remain at the disposal of various function subsystems, provided these systems are sufficiently open to enable the translation of these communications into their own code. In this respect, regulation is essentially a series of (structural) couplings between various subsystems. The acceptance by other subsystems is crucial for regulatory success, as Teubner points out that legal acts of regulation must ‘stand up’ to the autopoiesis of the regulated subsystem; in the case of telecommunications this is the economy.[173] It should be noted, however, that this research will focus on the evolution of communication law in response to developments in economy and science (technology), and not on the response of these other subsystems to said legal evolution.

Whereas the regulatory process involves various co-evolving function systems, one can once again repeat the question whether this process itself has reached a degree of autopoiesis.[174] Born and Goldschmidt, for example, find that regulatory discourse can

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[169] Ibidem.

[170] The concept assumes that a new entrant operator starts using basic, usually active, wholesale services provided by the incumbent operators. The new entrant will gradually climb the 'ladder', investing more and using less and less of the incumbent operator's infrastructure.

[171] See eg Cave, M., 2006, p. 223-37.

[172] Such a doctrine can also be recognised by, say the ERG. See e.g. *ERG Common Position on Best Practice in Bitstream Access Remedies Imposed As A Consequence of a Position of Significant Market Power in the Market for Wholesale Broadband Access, ERG(06)69Rev1*, p. 10.

[173] Teubner, G., 1993, p. 80.

[174] See above subchapter on Systems theory and the theory of regulation .

be characterised as autopoietic, as it produces its own developmental conditions.[175] Specifically, in their area of research, they observe that the discourse has developed internal hierarchies of norms, from where new concepts and arguments are being developed. This, however, may not hold true in the entire area of electronic communications regulation. Despite areas where self-regulation plays an important role,[176] the regulatory process still primarily focuses on the development of legal rules, i.e. norms outside the discourse as a potentially autonomous subsystem. Moreover, the process may itself be driven by legal rules requiring public consultations.[177] This necessarily limits the degree of autopoiesis of the regulatory discourse itself: should certain legal concepts such as wholesale network access obligations cease to exist, its scope would necessarily be limited. Furthermore, despite the existence of areas where there seems to be a universal discourse as to certain regulatory issues outside a specified legal framework, the legal component of regulation still exists independently and is not in any way affected by such developments.[178] However, this does not undermine the possibility of certain

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[175] Born, A. W., Goldschmidt, L. B., 1997, p. 38. In the case of law, developmental conditions are set by the constitution and legislation that enables the passing of legally relevant rules and decisions. In the case of discursive communications, however, the conditions for the development of new concepts may be less visible and will depend on the established practice of certain regulatory forums such as the ERG.

[176]E.g. UK VoIP providers' code of conduct that will be discussed in the chapter on VoIP.

[177]See Article 6 of the 2002 *Framework Directive*: "...Member States shall ensure that where national regulatory authorities intend to take measures in accordance with this Directive or the Specific Directives which have a significant impact on the relevant market, they give interested parties the opportunity to comment on the draft measure within a reasonable period…"

[178] The example of 'net neutrality', at first a civil society idea that telecommunications law access-type of remedies be used in order to regulate control of traffic exercised by the ISPs, may be used to demonstrate a high degree of autonomy of the regulatory discussions outside formal proceedings. In terms of media coverage, the US debates on 'net neutrality' have converged the elements of both the ongoing civil society 'internet freedom' movements and the debates on certain access-style remedies in telecommunications law that later found place in specific legislative proposals. See http://savetheinternet.com/ that converges the Internet freedom efforts of Professor Lawrence Lessig with legal developments. The debates were broad enough not to limit themselves to political or legal solutions. See Ganley, P., Allgrove, B., 2006, p. 459-461. However, one should bear in mind that the debates were not focused only on the legislative outcomes. Instead, their focus was on the idea whether to regulate net neutrality or not. There was not necessary a political solution to this, one could also invoke self-regulation. See e.g. Silva, P. 2005. Interestingly, net neutrality debates also emerged in Europe, showing how the same regulatory topic can spread regardless of the underlying legal framework. See e.g. http://www.ofcom.org.uk/media/speeches/2006/12/net_neutrality_111206.pdf, viewed 3rd February 2008. However, though impressive, the net neutrality movement does not in any way undermine the legal component of regulation: the proponents of the movement were largely seeking legal and political solutions for the problem (see e.g. 'Save the Internet: Take Action! Petition on the issue addressed to the Congress and the FCC' (2009) Available at https://secure.freepress.net/site/Advocacy?cmd=display&page=UserAction&id=356, viewed 11th October 2009), whereas the unity of the movement with 'regular' legal regulatory proceedings can be questioned.

comparative *legally elaborated* regulatory concepts being 'transplanted' from one jurisdiction to another.[179]

2.11 Systems theory and the comparative method

In order to reach legally relevant conclusions, systems theory observation and comparison should be used together with the traditional comparative law approach. This may be crucial in order to produce practical results from the analysis, as Luhmann himself notes that systems theory has limits as to its practical application.[180]

Systems theory meets comparative method when discussing 'legal transplants', i.e. solutions that are 'transplanted' from one legal system to another[181] whereby these are still recognised by the latter system as 'law'. In addition, it should be borne in mind that, as systems theory, comparative method tends to study law from a broader perspective, focusing on the function of legal concepts rather than their doctrinal structure.[182] It should further be noted that the traditional comparative method can be enriched by the sociological understanding of the legal framework in a broader social context.[183] Accordingly, the comparative approach can be seen as largely compatible with the broader and deeper systems theory.

The comparative analysis will primarily focus on two systems of communications regulation: the EU and the US. The EU and the US systems are interesting to observe because the EU and the US are generally perceived as leading the way in both technology and market regulation. Although both systems depend on certain common concepts such as *ex ante* rights of access and independent regulatory authorities, they nevertheless have very different historical roots. The EU and the US systems can further be seen as both representative and prototypical case studies for national regulatory systems across the globe: whereas potential EU accession countries like

[179] See below and Watson, A., 1993.

[180] Luhmann, N., 2004, p. 65.

[181] See Watson, A., 1993, p. 95.

[182] Zweigert, K., Kötz, H., 1998, p. 45.

[183] See ibidem, p. 10.

Croatia, Bosnia and Herzegovina or Montenegro have adopted the EU-type regulation, in Mexico, for example, the idea of the Federal Regulatory Commission (Cofetel) resembles that of the US FCC. In addition, one can involve the comparison of both systems with the WTO communications liberalisation system as their lowest common denominator.

However, the main reason to compare the EU and the US law is obvious enough divergence of their concepts despite similar development of technology and market competition on both sides of the Atlantic. Whereas both systems created their own images of phenomena such as telephony, interconnection and unbundling, these images considerably differ in terms of their scope, flexibility and obligations attached, proving the law's autonomy and calling for a critical assessment of its flexibility in relation to outside developments such as the transition to NGN. Although NGN technology, its application in business and the development of the markets may be largely comparable in the EU and the US, it will be shown how the two legal systems begin their analysis of their environment from two largely different legal perspectives

Whereas certain concepts such as local infrastructure unbundling can be seen as legal 'transplants'[184] from the US to the EU,[185] they will inevitably live their own autonomous life within the legal system they have been transplanted to. Accordingly, system theory can provide additional explanation to the comparative method, explaining how imported legal 'best practices' fit into the relevant legal system.

2.12 Systems theory approach and other research methods

In contrast with the ‘law and economics’ approach, systems theory does not limit itself to the image of law from the perspective of economic theory or, to put it differently, the subsystem of economy. ‘Law and economics’ looks for the most ‘efficient’ legal solutions from the economic point of view. Accordingly, one could use this approach to identify and advocate those legal solutions that are most efficient

[184] See Watson, A., 1993.

[185] 'Unbundling' is a term used by US Telecommunications Act 1996 and later by the EU Regulation 2887/2000.

in the light of IP technology. Nevertheless, bearing in mind the relative autonomy of the legal subsystem, one can argue that using only 'law and economics' may create theoretical models of regulation with little chance of successful implementation in practice. For example, the links between the regulatory burden in specific cases and investment decisions are extremely difficult to prove at the empirical level. Studies that have been conducted in this respect usually involve very general observations, and do not focus on specific legal concepts.[186] These limitations have exposed traditional 'law and economics' to criticism from the 'path dependence' theory, which has been offered as an alternative to neo-classical economy by authors such as Arthur.[187] The key idea of path dependence is the lock-in by certain historical events that can explain why, even when a more efficient solution exists, systems fail to evolve towards that solution.[188] According to 'path dependence', the legal system and the telecommunications industry could be deemed locked-in by certain historical concepts; the tradition of public monopolies resulting in monopolised local access copper-based networks may serve as a good example. It is therefore highly unlikely that an entirely new and potentially 'efficient' system of business models and legal concepts would emerge. Instead, one can expect an evolution of the existing legal system towards something that is simply more 'adapted' to the complexities of its IP-shaped environment.

Despite criticisms, it is submitted that 'law and economics' arguments can be used in order to evaluate the legal evolution from the economic perspective. Since regulatory laws are generally used to regulate economic transactions, this approach may prove to be extremely valuable. For this reason, it will be used occasionally during the course of this research in order to evaluate the intended effects of legal regulation from the economic perspective.

Nevertheless, systems theory may be better equipped to explain the evolution as such for the following reason: the presumption that the legal systems develop towards the most 'efficient' solutions seems highly unpersuasive. 'Efficiency' as a term in economic theory is based on the assumption that humans are rational utility

[186] See e.g. Li, Wei, 2004.

[187] See Liebowitz, S. J., Margolis, S. E., 1995.

[188] See Small, R.G., 2001, p. 58.

maximisers.[189] There is, however, no proof that the latter assumption is true and that this maximising always takes place in business transactions, politics, and law. Accordingly, there is no proof that systems always tend to move towards the most efficient solutions. Therefore, 'efficiency' can hardly be seen as the driving force behind evolution[190] but rather primarily as a criterion used within the economic subsystem in order to describe transactions within the economic or other subsystems. As Luhmann points out, it is not economic efficiency, but complexity that is the intervening variable that translates evolutionary structural changes into adjustments within the system.[191]

Contrary to the 'law and economics' approach, systems theory does not limit itself to the society as a general system for the balance of advantages, but can provide a much richer and more concrete description of the society and its subsystems,[192] including the law. This can be of particular importance in complex relationships among regulators, lawmakers, the industry, and end-users. Many of the arguments about the efficiency of regulations require one to unbundle complex relationships. For example, it is usually argued that laws themselves, without appropriate transparency of the actual decision-making, cannot produce a satisfactory regulatory environment in developing countries.[193] Similarly, understanding how the EU telecommunications law operates requires knowledge of the actual functioning of the European Commission and its DG Information Society. Only if one observes the way 'Article 7 procedures'[194] are conducted in practice, one can truly evaluate the EU regulatory model. As systems theory is equipped to tackle these complexities by identifying separate social subsystems and interactions among them, it may produce better overall results than 'law and economics'.

One should further bear in mind that legal concepts must be expressed in language in order to form part of communication and, accordingly, society. As language is

[189] Posner, R A., 2003, p. 4.

[190] Luhmann, N., 2004, p. 271.

[191] Ibidem.

[192] Luhmann, N., 2004, p. 64-65.

[193] See e.g. Petrazzini, B.A. in: Melody W.H., 1997, p. 361.

[194] See Article 7 of the *Framework Directive*, which involves the opinion prepared by the Commission Services experts.

studied by the science of linguistics, the latter can be employed in order to enrich systems theory research. This can be achieved by testing the capability of legal language to adapt to new phenomena in its environment. In this respect, the traditions of linguistic and jurisprudential analysis should be observed, namely exegesis and rhetoric.[195] The former is based on the idea of recovering the true meaning and order of the text by virtue of an analytic reconstruction of its source,[196] whereas the latter builds on a more pragmatic idea of law as discourse.[197] These approaches to legal language can help us understand the possibility of codifying certain technological and business situations. Furthermore, legal linguistics may help us determine how the 'transformation' or 'translation' of 'ordinary language' and 'ordinary meanings' into the 'closed' code of the legal system is effected by means of 'practical jurisprudence'.[198] It should be noted, however, that regularly-changing definitions introduced by law in order to track technological developments usually leave little time for this 'practical jurisprudence' of finding stable meanings by means of a day-to-day application of laws. This will be demonstrated on the example of VoIP, along with other examples of the law's response to NGN that will be dealt with in the chapter that follows.

2.13 The limits and weaknesses of systems theory

Whereas systems theory can be, based on the above, highly useful in providing insight into the evolution of law, it is also important to bear in mind its limits in terms of research results.

To begin with, systems theory cannot provide for value judgement as to political or regulatory decisions. Whereas it can identify the law's autopoietic boundaries that limit the systems's internal flexibility and may require coupling with other systems in order to reach certain results, it cannot serve as means of establishing *desirable* results. For this reason, whenever *desirable* solutions are proposed in this thesis,

[195] Goodrich, P. 1987,,p. 3.

[196] Ibidem, p. 3-4.

[197] Ibidem, p. 5-6.

[198] Ibidem, p. 161.

they are borrowed from the economic system or say the law's internal autopoietic concepts such as the principle of equality.

Moreover, systems theory usually cannot explain one off[199] political or regulatory decisions triggered by powerful figures or groups whose minds or programmes can directly couple with the decision-making process. A thick policy theory and analysis would be required in order to tackle these issues, which is beyond the reach of this thesis. Nevertheless, this limit of the system theory is offset by its ability to provide essential warnings to policy-makers regarding the law's (in)ability to adapt to new phenomena in communications markets.

This thesis is primarily about the law's reluctance to change on the one hand and its flexibility on the other. It cannot provide for an ultimate answer as to what would be required for 'better' legal regulation. However, as long as 'better' regulation also means more reflexivity, it can provide guidance as to what can and what cannot be expected from the current trends in regulatory laws.

2.14 Normative framework to be addressed

Perhaps the historical Edison ruling whereby voice telephony was held to constitute a 'form of telegraph'[200] can be used as the best starting point for the review of the law's response to the challenges of new technologies. Whereas the existence of a legal dispute seems to demonstrate the increasing economic importance of voice telephony and its competition to the old telegraph business, the dispute itself evolves around a legal definition. This implies both the need for the economic system to couple in legal regulatory matters with the legal system, and the law's reliance on its own concepts regardless of the changing technological and business environment.

This thesis attempts to follow this dichotomy of the law and its technological and business environment by means of linking 'cornerstone'[201] legal regulatory concepts

[199] See Teubner, G. in: Teubner, G., 1987, p. 226.

[200] AG v Edison Telephone Company of London (1880) 6 QBD 244. For more history, see Walden, I., 2009, p. 124.

[201] Melody, W.H. in: Melody, W.H., 1997, p. 51 et seq.

with the new phenomena in communications technology and economics. These concepts will be tested for their reluctance to change in relation to the changes in the environment.

One should imply that numerous legal concepts might couple with NGN and that a selection inevitably has to be made prior to conducting research. Accordingly, the initial legal market-liberalising norms have mostly been left out as increasingly irrelevant in largely licence-free European markets.[202] Areas of law not primarily attempting to affect communications market economics such as privacy, surveillance and data protection have also not been addressed, since they would require their own highly complex analysis. Spectrum issues are mostly not addressed by European bodies in the context of regular market analysis and are less likely to be linked specifically to IP traffic or even fixed fibre-based NGA roll out. Therefore, the first focus of this thesis is on the rules governing public telephony market, largely based on the idea that end-users require protection in a freshly liberalised market.[203] The second focus is on the rules governing wholesale access and interconnection, whereby competitors are allowed to use other operators' facilities in order to develop their own networks and services, a common attempt to overcome communications market failures.[204]

The concept of public telephony is associated with VoIP, the NGN all-IP equivalent of traditional switched voice services; the concept of interconnection is associated with the exchange of IP traffic instead of traditional voice traffic and access; and the concept of unbundled local access is associated with the replacement of copper-based local networks with 'Next Generation' fibre-based infrastructures. All of these concepts can be, on the other hand, linked to the EU Treaty rules on the functioning of the internal market, competition, non-discrimination of EU nationals e.g. in relation to establishment, and consumer protection.[205] This context inevitably makes these concepts 'sticky' in relation to their legal foundations and questions their ability to freely adapt to the NGN environment.

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[202] See Flanagan, A. in: Walden, I., 2009, p. 327.
[203] See e.g. Walden, I. in: Walden, I., 2009, p. 11.
[204] See ibidem, p. 392.
[205] See e.g. Articles 4, 26, 50, 101 and 102 of the *Treaty on the Functioning of the European Union*.

Two additional issues are added to the review and will be addressed in the thesis for better understanding of the law's evolution in relation to NGN.

The first is so-called net neutrality, a legally elaborated concept based on the idea that different types of traffic should not be discriminated against in NGNs. Although having been enacted in the scope of end-user protection measures of the EU communications regulatory framework,[206] this concept can be seen as a *sui generis* legal innovation relying on the principle of equality in both wholesale and retail communications market transactions, demonstrating the evolutionary potential of the legal form and concepts.

The second issue is the EU institutional setting and its evolution. There are three reasons that call for a closer look at the European regulatory bodies, namely the European Commission and the NRAs, with a view to NGN-related evolution of law. First, legal developments as to the institutional structure can be seen as the law's own attempt to get a better understanding of its rapidly changing environment. Second, the processing of new technological and business phenomena by means of institutions can spur the law's responsiveness to the environment. Third, the institutions and the law are both autopoietic, pursuing e.g. the EU Treaty 'internal market' agenda, which points at the limits of the institutions as the law's 'sensors' of the environment. Accordingly, the analysis that follows begins with the institutional context in order to provide a full picture of the law's coupling with the environment and its evolution.

[206] See Articles 8 and 22 (3) of the 2009 *Universal Service Directive.*

3 INSTITUTIONAL EVOLUTION AND THE PRODUCTION OF RULES

In order to promote itself in the changing environment, one can expect the law to set up institutions i.e. organizations that can facilitate its co-evolution with market and technological developments by means of coupling, on the one hand, with the legal framework and, on the other hand, with the law's evolving market and applied technologies.

Like function systems, these organizations are autopoietic: according to Teubner, organizations can be identified by the "cyclical linkage of identity and action perfected in the legal person, whereas the action system acquires a hitherto unachieved autonomy vis-à-vis its environment and internal environment of members and others involved in the organization".[207] Whereas they may contribute to the law being more reflexive by means of regular processing of contemporary issues, one should be cautious about the ambit of such organizations' activities: an adequate institutional design can increase the response but cannot cause the law to get out of its own concepts of seeing the environment. Moreover, the autopoiesis of these organizations as such may cause the law to largely couple with their own agenda instead of say economic market failures.

Indeed, a great deal of EU law's reform from the ONP framework to the 2009 review was about the institutional framework. For example, Commissioner Reding's spokesman Martin Selmayr directly linked the need for a European regulatory authority with the urgent need for regulatory attention to VoIP.[208] While this statement is political in its context and can be contested on practical grounds, it is at the same time an interesting indicator of the European law's interaction with the environment: the law sees its institutions as essential means of addressing NGN-related issues, regardless of say self-regulatory mechanisms of the market.

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[207] Teubner, G., 1987c, p. 20.

[208] Steitz, C., 2007.

3.1 The evolving EU institutional framework

Unlike in the US where the regulatory powers are shared between the Federal Communications Commission (FCC) and State Public Utility Commissions with key local access regulation powers conferred to the former,[209] the power to issue regulatory acts in the EU has been concentrated in the hands of the Member States' bodies designated to act as NRAs.[210] based on EU directives and national implementing measures.[211] However, European Commission has since the very beginning of the liberalisation process played a key role in the EU regulatory process. Its first key initiative and achievement was the issuing of liberalisation directives that dismantled national equipment and later service monopolies in Member States.[212] Under the initial regulatory directives as adopted by the European Parliament and the Council of Ministers, the Commission played its usual Community 'watchdog' function.[213] However, under the 2002 Framework, the Commission has become actively involved in day-to-day regulatory activity, proposing relevant markets[214] that are to be regulated and evaluating the work of the NRAs. This includes commenting on the proposed legal measures and can, in case of serious doubts about the compatibility of the market analysis and market power designation with EC law, include the suspension of the measure or even a veto

[209] On this topic, see Lee, K., Prime, J. in: Walden, I.,-ed., 2009, p. 227 and 232.

[210] On the powers and criteria for the NRAs, see Walden I. in Walden, I.,-ed., 2009, p. 192-197.

[211] In exceptional circumstances, direct regulation is possible by means of Regulation of the European Parliament and the EU Council. This power has been exercised in respect of local loop unbundling by means of *Regulation (EC) No 2887/2000 of the European Parliament and of the Council of 18 December 2000 on unbundled access to the local loop, and in respect of international roaming price regulation*, by means of *Regulation (EC) No Regulation (EC) No 717/2007 of the European Parliament and of the Council of 27 June 2007 on roaming on public mobile telephone networks within the Community and amending Directive 2002/21/EC, as amended by Regulation (EC) No 544/2009 of the European Parliament and of the Council of 18 June 2009*.

[212] On this process, see Walden, I. in: Walden, I.,-ed., 2009, p. 176-185.

[213] For example, monitoring and reporting as to interconnection were dealt with by Articles 14(3) and 22 of the 1997 Interconnection Directive. However, the Commission did have in Article 7(5) explicit mandate to issue a harmonising Recommendation as to cost accounting systems and accounting separation in relation to interconnection.

[214] See Article 15(1) of the 2002 *Framework Directive*: "After public consultation and consultation with national regulatory authorities the Commission shall adopt a recommendation on relevant product and service markets…"

decision.[215] These powers that are exercised in the so-called 'Article 7 procedures'[216] have been in the 2009 Framework review partially extended to market remedies, such as obligations imposed on operators to grant network access.[217]

The powers of the Commission are counterbalanced by the consultative comitology proceedings, whereby the Communications Committee (Cocom) representing the Member States oversees the powers delegated to the Commission.[218] More importantly in practice, however, European NRAs have been organised in the European Regulators' Group (ERG), recently transformed to the Body of European Regulators on Electronic Communications (BEREC), that regularly prepares Common Positions and other documents on the harmonised application of regulatory powers granted by the NRF.

During the review of the NRF, the idea about a European regulatory authority has emerged.[219] Commissioner Reding initially proposed the creation of a single

[215] See Article 7(4) of the 2002 *Framework Directive*: "Where an intended measure […] would affect trade between Member States and the Commission has indicated to the national regulatory authority that it considers that the draft measure would create a barrier to the single market or if it has serious doubts as to its compatibility with Community law and in particular the objectives referred to in Article 8, then the draft measure shall not be adopted for a further two months. This period may not be extended. Within this period the Commission may, in accordance with the procedure referred to in Article 22(2), take a decision requiring the national regulatory authority concerned to withdraw the draft measure. This decision shall be accompanied by a detailed and objective analysis of why the Commission considers that the draft measure should not be adopted together with specific proposals for amending the draft measure." On Commission role, see also Walden, I. in: Walden, I.-ed., 2009, p.192.

[216] See ibidem.

[217] See Article 7a of the 2009 *Framework Directive* in the Appendix.

[218] See Article 22(1) of the 2002 *Framework Directive*: "The Commission shall be assisted by a Committee (the Communications Committee)." The same article further refers to comitology system established by the Council decision Decision 1999/468/EC.

[219] One should, however, bear in mind that the EU system is specific compared to, say the US system. The NRAs could not possibly play the role comparable to the FCC on the national level, as they are subject to the Commission veto as far as their crucial measures such as market analysis is concerned. In this respect, the Commission is playing the role of the quasi-regulator with a high degree of discretion, including the power to set its own criteria to define the markets susceptible for ex ante regulation. In addition, it has the crucial power of initiative to recommend the changes in legislation to the Parliament and the Council. See e.g. Wallace, H., 2000, p. 15. In this respect, the Commission itself should be treated as a regulator with broad discretionary powers. This should be put in the context of the EU institutional design: the Commission generally lacks sufficient staff and is bound to co-operate with national institutions, in this case the NRAs. Ibidem. Accordingly, the Commission and the NRAs, together with the ERG, form European regulatory bodies. This is quite different from the relationship between the US FCC and the State Regulatory Utilities Commissions, where the division of powers is based on federal and state competences. In the EU, on the other hand, national SMP decisions may always be vetoed by the Commission, implying EU jurisdiction over every SMP decision.

European regulatory agency resembling the US FCC,[220] but this has later been watered down by the Commission's idea of a consultative body named the European Electronic Communications Market Authority (EECMA).[221] Though this may be questionable bearing in mind the very limited powers of this agency proposed, the Commission's public messages indicated the emergence of EECMA was important *inter alia* in relation to unresolved issues as to the use of VoIP that were supposedly insufficiently dealt with by the ERG.[222] The initial proposal has been severely modified during the European Parliament and the Council discussions and has finally resulted in the idea of Body of European Regulators for European Communications (BEREC), a modified ERG supported by an Office as a Community body,[223] with enhanced powers in 'Article 7 procedures'.[224]

Organizations such as the ERG, now BEREC, and the European Commission fulfil the Teubner's criteria for autopoiesis[225], as they largely achieve their identify themselves by means of their harmonising communications, while also distancing themselves from its members, i.e. Member States and their NRAs. Communications attributable to the Commission and the ERG, now BEREC, structurally couple with the law, either as mandatory decisions or soft law that can be re-used in regulatory practice (e.g. Common Positions or Recommendations). As further analysis of the

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[220] On EU regulatory agencies, see Tarrant, A., Kelemen, R. D., 2007.

[221] See *Proposal for a Regulation of the European Parliament and the Council establishing the European Electronic Communications Market Authority, COM(2007)699 rev2*.

[222] See e.g. Steitz, C., 2007.

[223] See 'Proposal for a Regulation of the European Parliament and of the Council establishing the European Electronic Communications Market Authority – Outcome of the European Parliament's second reading (Strasbourg, 4 to 7 May 2009)' (2009) Available at http://register.consilium.europa.eu/pdf/en/09/st09/st09320.en09.pdf, 26th July 2009.

[224] See Article 7a and Recital 19 of the *Better Regulation Directive*: "...In order to benefit from the expertise of national regulatory authorities on the market analysis, the Commission should consult BEREC prior to adoption of its decisions and/or opinion.' See also the Position of the European Parliament adopted at second reading on 6 May 2009 with a view to the adoption of a Directive 2009/.../EC of the European Parliament and of the Council amending Directives 2002/21/EC on a common regulatory framework for electronic communications networks and services, 2002/19/EC on access to, and interconnection of, electronic communications networks and associated facilities, and 2002/20/EC on the authorisation of electronic communications networks and services: 'The discretion of national regulatory authorities needs to be reconciled with the development of consistent regulatory practices and the consistent application of the regulatory framework in order to contribute effectively to the development and completion of the internal market. National regulatory authorities should therefore support the internal market activities of the Commission and those of BEREC."

[225] Teubner, G., 1987c, p. 20.

two organisations show, each of them have processed NGN-related phenomena according to their own legal tasks and autopoietic organisational agenda.

3.2 European Commission

An increase in the harmonising activity of the Commission services can be observed in the passing of the 2002 Framework. Until 2008, Commission intervention in the harmonisation of network access measures was limited to the issues of leased lines, cost accounting and accounting separation.[226] This was despite the general powers granted to the Commission under Article 19 of the 2002 *Framework Directive*[227] to issue recommendations on the harmonised application of the provisions of the 2002 Framework in order to further the achievement of the objectives mandates upon the NRAs, such as the prevention of distortion, or restriction, or competition, or encouraging efficient investment in infrastructure.[228] In 2008, however, the Commission came up with two strategic Recommendations relating to network access: on fixed and mobile termination rates, and on Next Generation Access networks (NGA).[229] The Commission's harmonising powers have been further enhanced by means of the 2009 review, whereby the issuing of mandatory decisions has been made possible in addition to non-binding recommendations.[230]

The creation of new abstract norms by the Commission has become an internal function of the EU communications law that can regularly couple with external influence, such as political power and lobbying. As Luhmann would argue, the provision of said Article 19 of the 2002 *Framework Directive* triggers the creation of new legal texts with the help of the existing directives texts.[231] Any use of these

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[226] See 'eCommunications: recommendations and guidelines' (2010) Available at http://ec.europa.eu/information_society/policy/ecomm/library/recomm_guidelines/index_en.htm, 29th December 2008.

[227] See Appendix.

[228] The original full list of objectives for the NRAs was listed in Article 8 of the 2002 *Framework Directive,* see Appendix.

[229] See *Commission Recommendation of 20.9.2010 on regulated access to Next Generation Access Networks (NGA), C(2010) 6223 final and Commission Recommendation on the Regulatory Treatment of Fixed and Mobile Termination Rates in the EU, C(2009) 3359 final*.

[230] See the new Article 19 of the 2009 *Framework Directive*, see Appendix.

[231] This is valid for any interpretation but even more so for discretionary decision-making, where more room for the development of new texts is created. Luhmann, N., 2004, p. 306.

powers will trigger the development of a new Recommendation. Moreover, as the Commission is involved in the so-called 'Article 7 procedures', it faces a constant requirement to evaluate, at least from the Single Market point of view, regulatory measures presented to it.[232] If this requirement is coupled with an ability to set abstract rules in the form of Recommendations, using Recommendations as an additional steering instrument in 'Article 7 procedures' becomes a normal response of any administration that is required to 'implement' its pre-written programmes, which may be originally political, but are translated into legal form.[233] Of course, a pre-condition for such steering is the Commission's largely political perception that such action is *required*.

When the transition from the ONP directives to the NRF was in question, there was a broad agreement at the EU level as to the transfer of the remedies of the 1997 *Interconnection Directive* into the 2002 legal framework.[234] In this case, except as to specific accounting issues, no additional harmonisation needs were envisaged by the Commission. This situation seems to have changed with the advent of NGN and NGA, whereby the coupling with the new business and technological environment has taken place. There was no obvious consent of the NRAs and the Commission on how to deal with access to fibre loops or ducts that can be used to roll them out, or on how to charge for termination at the time of a progressive replacement of TDM network cores with NGN. The opinions of several Member States and the ERG that enough room should be left to the NRAs for them to be able to tackle national circumstances could hardly be accommodated, as the Commission is bound to pursue the autopoietic legal (and political) programme of harmonisation, legally elaborated

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[232] Article 7 of the 2002 *Framework Directive*: "[The NRA] shall […] make the draft measure accessible to the Commission […] and inform the Commission […] thereof. […] the Commission may make comments to the national regulatory authority concerned [...] 4. Where an intended measure covered by paragraph 3 aims at: (a) defining a relevant market which differs from those defined in the recommendation […] (b) deciding whether or not to designate an undertaking as having, either individually or jointly with others, significant market power […] and would affect trade between Member States and the Commission has indicated to the national regulatory authority that it considers that the draft measure would create a barrier to the single market or if it has serious doubts as to its compatibility with Community law and in particular the objectives referred to in Article 8, then the draft measure shall not be adopted for a further two months. […] 5. The national regulatory authority concerned shall take the utmost account of comments of other national regulatory authorities and the Commission and may, except in cases covered by paragraph 4, adopt the resulting draft measure and, where it does so, shall communicate it to the Commission."

[233] See Luhmann, N., 2004, p. 374.

[234] See chapter on access and interconnection below.

in Articles 7 and 19 of the *Framework Directive* and based on the Commission's general role under the EU Treaty. Accordingly, it was an understandable action by the Commission to propose long-run incremental costs (LRIC)[235] based on the costs of the NGN core as the ultimate call termination pricing methodology,[236] and set rules for costing and non-discrimination as to ducts and fibre loops access.[237] These developments suggest that coupling of the EU law with the new NGN environment should be seen in the context of the legal harmonisation formula pursued by the Commission as an institution.

It is not of primary interest for this work to discover the influence of lobbying or specific hidden political (or even personal) agendas behind them. What matters most is that, when producing the rules, the Commission functions as a specific autopoietic forum with its own set agenda that is based on its perception of 'harmonisation'. There are, of course, external influences and legal safeguards in the form of Communications Committee (Cocom) procedures,[238] public consultations, ERG inputs, or simply lobbying. However, the procedure whereby original rules are actually created is limited to the Commission services, i.e. its internal administration. In other words, observations of the environment on the basis of which regulatory rules are primarily[239] drafted happen within a closed organisational circle. A similar type of decision-making can be observed with the ERG, later transformed to BEREC, introducing checks and balances to harmonising procedures initiated by the Commission in accordance with its enhanced powers.[240]

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[235] Incremental costing in telecommunications is based on the idea that one additional unit of product hardly means any marginal costs, however, multiple units require an increment in terms of network investment, enabling the regulators to set, for example, the price per minute of call. See also Melody, W.H., 1997, p. 239 et seq.

[236] *Recommendation on the Regulatory Treatment of Fixed and Mobile Termination Rates in the EU, C(2009) 3359 final*.

[237] *Commission Recommendation of 20.9.2010 on regulated access to Next Generation Access Networks (NGA), C(2010) 6223 final*.

[238] See Article 22 of the *Framework Directive*: "1. The Commission shall be assisted by a Committee ("the Communications Committee") …"

[239] Consultancies, such as Analysys Mason, may from time to time be hired by the Commission.

[240] See Articles 7 and 19 of the *DIRECTIVE 2002/21/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 7 March 2002 on a common regulatory framework for electronic communications networks and services (Framework Directive) as amended by Directive 2009/140/EC and Regulation 544/2009* (unofficial consolidated version).

3.3 European Regulators Group (ERG) and the Board of European Regulators for Electronic Communications (BEREC)

The ERG, an organisation of European NRAs that has subsequently transformed into BEREC and its Office with the status of an EU agency, has also seen tremendous increase in its harmonising activities. Though formally, according to the Commission Decision[241] that established it, its task is to advise and assist the Commission,[242] in practice the ERG has been characterised by its largely autonomous views.[243]

The essential background for its creation was the Commission's finding that "the need for the relevant rules to be consistently applied in all Member States was essential for the successful development of an internal market for electronic communications networks and services."[244] The ERG was supposed to provide "an interface between national regulatory authorities and the Commission in such a way as to contribute to the development of the EU internal market."[245] It was also to allow for cooperation between national regulatory authorities and the Commission in a transparent manner to ensure the consistent application of the regulatory framework for electronic communications networks and services in all Member States. The ERG was to "serve as a body for reflection, debate and advice for the Commission in the electronic communications field".[246]

In parallel, the members of the ERG have also established the IRG as an independent organization of European NRAs, which has acted as a pressure group against the Commission's policies, and also has, since 2008, had legal personality under Belgian

[241] *Commission Decision 2002/627/EC of 29 July 2002*.

[242] Ibidem. Aims of the ERG are defined in Article 3: "The role of the Group shall be to advise and assist the Commission in consolidating the internal market for electronic communications networks and services. The Group shall provide an interface between national regulatory authorities and the Commission in such a way as to contribute to the development of the internal market and to the consistent application in all Member States of the regulatory framework for electronic communications networks and services."

[243] Diverging views on future regulation were sometimes even expressed publicly. See e.g. letter of the former ERG Chairman Mr Roberto Viola of 6th November 2007, available at www.erg.eu.int/doc/publications/viviane_reding_letter.pdf, 27th July 2009.

[244] Recital 4 of the *Decision 2002/627EC*.

[245] See Recital 6 of the *Commission Decision 2002/627/EC*.

[246] Recital 6 and 7 of the *Decision 2002/627EC*.

private law. In either role, however, the ERG has shown a degree of autonomy in relation to the Commission.[247] Moreover, it has developed an ongoing process of dealing with regulatory issues, whereby project teams consisting of NRA experts have been preparing Common Positions or Reports to be ultimately adopted by the Plenary as the body of NRA heads. The ERG has become an organisation interpreting legal rules, proposing market remedies and observing technological and business phenomena, which has resulted in large amounts of fresh documents.[248]

The ERG, now BEREC, consults on the documents with the general public,[249] but the documents themselves are initiated and prepared internally, bearing in mind that the work programme for each year is also influenced by the actions and requests of the Commission.[250] Accordingly, the procedure does not guarantee any significant dependence on the outside factors, and therefore enables a rather autonomous development of norms by the ERG as a forum of regulators. This may be perceived as having unwanted consequences. The regulators 'want to survive', even if their key objectives have been fulfilled in many markets, a phenomenon also observed by Hall, Scott and Hood in Oftel's earlier stages of existence.[251] The same point can be made in respect of the Commission's role, except for the fact that the ERG's autopoietic activities largely refer to the national regulatory experience of its members, whereas the Commission's ideas primarily originate from the Commission's own political agenda and the *acquis communitaire*-based harmonisation programme.[252]

[247] See *2008 IRG/ERG Work Programme*: "In addition, the strategic importance of pointed and well-prepared deliveries is to support and to voice standpoints of the NRAs as a group, and show consistency to the outside world, including the Commission."

[248] See http://erg.ec.europa.eu/, 29th October 2009. Though established for the purpose of harmonising the regulation of electronic communications services (by definition not including content services, see Article 2(c) of the *Framework Directive*), the ERG has also launched research on convergence by means of establishing a Convergence Project Team, touching also upon issues such as the influence of copyright for content as bottlenecks in communications value chain.

[249] See BEREC 'Public consultations', available at www.erg.eu.int/documents/cons/index_en.htm, 30th December 2008.

[250] For example, *Work Programme for 2009* at several occasions refers to Commission activities or requests. 'I/ERG work programme 2009' (2008) Available at www.erg.eu.int/doc/publications/consult_wp_2009/erg_08_48_wp_2009_final_081209.pdf, 30th December 2008.

[251] Hall, C., Scott, C., Hood, C., 2000, p. 209.

[252] An interesting phenomenon can further be noted in relation to the regulation by the two closed fora: instead of producing binding legal documents, which generally requires stronger safeguards, documents without direct legal binding power are created that can, however, have a huge impact upon

The autopoietic existence of the ERG is also reflected in the quantity of its activities, irrespective of the NRF idea of the progressive phasing out of *ex ante* regulation. Looking at the ERG record, the amount of documents produced per year has significantly grown since establishing the organisation.[253] In this respect, the ERG has increasingly focused on specific remedies related to network access. Whereas initially only general guidance as to the choice of remedies under the 2002 Framework[254] or solutions for specific problems such as cable bitstream[255] had been given, it has become common practice to propose more detailed rules for non-competitive markets in specific areas, such as wholesale local and broadband access (bitstream)[256], symmetry of termination rates[257], or regulation of leased lines.[258] In order to properly understand this increased activity, however, one should not only point to the autopoietic reference to the ERG's harmonising mission, but also to its identity vis-à-vis the Commission.[259]

3.4 Productive competition

Interestingly, the relationship between the Commission and the ERG has in practice amounted to the one of competition rather than to the one of co-operation. In 2007

actual legally-binding decision-making. For example, invoking Commission's Recommendations or ERG Common Positions may help to fulfil the burden of proof for imposing certain remedies with the domestic courts.

[253] See http://www.erg.eu.int/documents/docs/index_en.htm, 30th December 2008.

[254] The original 'ERG Common Position on the approach to Appropriate remedies in the new regulatory framework,ERG (03) 30rev1' (2003) Available at www.erg.eu.int/doc/whatsnew/erg_0330rev1_remedies_common_position.pdf, 1st January 2009.

[255] 'Bitstream Access, ERG Common Position of 2nd April 2004 and amended on 25th May 2005 ERG (03) 33rev2' (2005) Available at www.erg.eu.int/doc/whatsnew/erg_03_33rev2_bitstream_access_final_plus_cable_adopted.pdf, 3rd May 2008.

[256] 'ERG Common Position on Best Practice in Bitstream Access Remedies Imposed as a Consequence of a Position of Significant Market Power in the Market for Wholesale Broadband Access ERG(06)69Rev1' (2006) Available at www.erg.eu.int/doc/publications/erg_06_69rev1_wba_cp.pdf, 2nd March 2008.

[257] 'Common Position on symmetry of fixed call termination rates and symmetry of mobile call termination rates, ERG (07) 83' (2007) Available at www.erg.eu.int/doc/publications/erg_07_83_mtr_ftr_cp_12_03_08.pdf, 1st January 2009.

[258] 'Common Position on Best Practice in Remedies Imposed as a Consequence of a Position of Significant Market Power in the Relevant Markets for Wholesale Leased Lines, ERG (07) 54' (2007) Available at www.erg.eu.int/doc/publications/erg_07_54_wll_cp_final_080331.pdf, 1st January 2009.

[259] See e.g. Teubner, G., 1987c, p. 20.

the Commission, holding the legislative initiative in the EU, proposed within the scope of the 2002 Framework Review that the ERG be replaced with a Euroregulator: the European Electronic Communications Markets Authority (EECMA) that would have the status of an EU agency.[260] As the reason the Commission quoted the efficiency of ERG work in certain areas.[261] However, bearing in mind the extremely limited powers of the proposed authority,[262] the lack of political understanding between the Commission and the ERG is a more likely reason. It should be noted that, in parallel with the proposed institutional reform, the Commission also proposed to extend its veto to the NRA decisions on remedies, whereas EECMA would assist the Commission's services in preparing the desired alternative regulatory scenarios.[263] With the NRA heads playing a (marginal) role in the so-called EECMA 'Board of Regulators', the ERG and the IRG would be rendered unnecessary, while EECMA powers would be vested in the Director and the Administrative Board appointed by the Council of Ministers and the Commission.[264] Although this can be seen as an attempt by the Commission to seize powers of Member States' NRAs, it is also part of the programme to pursue harmonisation; the latter is easier to achieve when less de-centralised players are involved, as is the case with the NRAs and their organisation.

In his letter, ERG Chairman Daniel Pataki offered the IRG, the existing ERG acting as a civil law organization with its own resources, as a response to the proposed

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[260] See *Proposal for a Regulation of the European Parliament and the Council establishing the European Electronic Communications Market Authority*, COM(2007)699 rev2.

[261] Commissioner Reding's spokesman Martin Selmayr directly linked the need for a Euroregulator with the urgent need for regulatory attention as to VoIP, without explaining how establishing an authority, which should be 'three times as well' as the ERG in performing its tasks, will contribute to better regulation of VoIP, especially given the fact that no specific powers would be given to it in this area. Steitz, C. 'Planned EU telecoms authority to replace ERG in 2010' (2007) Available at www.forbes.com/feeds/afx/2007/10/31/afx4284234.html, 26th July 2009.

[262] See *Proposal for a Regulation of the European Parliament and the Council establishing the European Electronic Communications Market Authority, COM(2007)699 rev2*, whereby EECMA would mainly serve as a consultancy for the Commission services in 'Article 7 proceedings'.

[263] At the request of the Commission, 'the Authority shall deliver opinion on all matters regarding electronic communications.' See *Proposal for a Regulation of the European Parliament and the Council establishing the European Electronic Communications Market Authority*, *COM(2007)699 rev2*.

[264] Each body would appoint 6 of totally 12 members. *See Proposal for a Regulation of the European Parliament and the Council establishing the European Electronic Communications Market Authority*, *COM(2007)699 rev2*.

EECMA.[265] Stressing past ERG achievements, he proposed to enhance the existing model of co-operation between the ERG and the Commission by means of formalising the ERG's role in Article 7 proceedings and its further involvement in other Commission activities, such as the Framework review.[266] On the other hand, the Commission could get involved at an earlier stage in the ERG annual Work Program drafting process.[267] The letter did not persuade the Commission to withdraw or modify its EECMA proposal. Nevertheless, following the procedure in the European Parliament and the Council of Ministers, which also meant direct involvement of Member States' governments, the EECMA proposal has been gradually modified[268] into a proposal to establish the Body of European Regulators for European Communications (BEREC)[269] that would resemble the old ERG primarily governed by the NRA heads. On the other hand, this entity would be assisted by an Office that was to provide administrative and professional support.[270] In this form the ERG essentially survived, while also gaining an additional full-time support system in the form of an EU office. In this respect, it is essential that the ERG as an autopoietic organization successfully went through the changes of the legal framework, being able to identify itself not only internally[271] but also externally by means of its actions, coupled with the European politics that had granted it a privileged position in 'Article 7' and 'Article 19' procedures.[272]

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[265]See the ERG's letter to Commissioner Vivienne Redding (2007) Available at http://erg.ec.europa.eu/doc/publications/viviane_reding_letter.pdf, 31st October 2009.

[266] Ibidem.

[267] Ibidem.

[268] Scaling down Commission powers is the most common explanation of this reaction by the Parliament and the Council. See Peter, H., 2008. The interim version proposed an upgraded ERG called the Body of European Regulators of Telecommunications (BERT).

[269] Regulation (EC) No 1211/2009 (*BEREC Regulation*).

[270] See EU Telecom Trackers, Cullen International, June 2009, p. 8.

[271] In its 2008 Work Programme the ERG clearly states: 'The WP 2008 intends to make sure that *our* voice is heard regarding every bit of the reform and that the contributions are taking into account at the highest level.' 'IRG/ERG Work Programme 2008' (2007) Available at http://erg.ec.europa.eu/doc/work_progr_2008/erg_07_65rev2_work_programme_2008.pdf , 1st November 2009. Furthermore, reaching the agreement to register as a civil law entity under Belgian law does show a high degree of self-identification of the members who are essentially parts of public administrations of the Member States.

[272] Similarly, Hall, Scott and Hood describe the UK former sectoral regulator Oftel's 're-invention' as competition authority, which prevented its 'self-destruction' implied by the theory of transition to a competitive market. Hall, C., Scott, C., Hood, C., 2000, p. 209.

Looking at the activities of both bodies described above, the last highly conflicting years have also been the most productive ones in terms of preparing new legally relevant documents. Whereas the technological developments in respect of NGN provided enough content to deal with, it was nevertheless the competition between the two bodies that facilitated the coupling with the changing environment: the 2008 IRG/ERG Work Programme largely focused on the Commission Framework Review proposal[273] with a view to preparing an alternative version. The need to compete with the Commission is most clearly described by the following wording in the said document: "In addition, the strategic importance of pointed and well-prepared deliveries is to support and to voice standpoints of the NRAs as a group, and show consistency to the outside world, including the Commission."[274] Unlike other years' Work Programmes, the 2008 programme also contained an implicit worry that the ERG would look bad if not performing as *ad hoc* requested by the Commission: "The ERG also needs to reserve resources in order to fulfil requests of the Commission of ERG opinions on specific topics articulated in high-level pre-legislative papers."[275] This can of course be seen as productive competition between the two organizations identifying themselves vis-à-vis each other, whereby this productivity results in more text and more 'juridification'. As the law attempts to tackle new problems in the environment in order to promote itself, it sets up organisations that produce more legal rules to this end.

It may be comforting, though, that proliferation of legal regulation or 'juridification' says more about the administrative burden for market entities than about the real economic burden in terms of, say pricing or network access requirements. As such, proliferation of norms merely means that the economic system will have to couple with a way more complex body of legal norms (or, alternatively, ignore it as far as possible).[276]

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[273] See above.

[274] 'ERG Work Programme 2009' (2008) Available at www.erg.eu.int/doc/publications/consult_wp_2009/erg_08_48_wp_2009_final_081209.pdf, 30th December 2008.

[275] Ibidem.

[276] The business community seems to be well-prepared to this increased complexity by means of forming its own organizations, such as ECTA (see www.ectaportal.com, 1st November 2009). The organisation was established in 1998 and has been publishing 'Regulatory Scorecards' evaluating the work of European NRAs since 2002. By adding a special 'Broadband Scorecard' to the general reports, ECTA activity particularly focused on broadband to provide high-speed IP-based services.

Whereas the described institutional setting relies on the EU law's internal programme of harmonisation of regulatory measures, it also facilitates, by means of different regulatory bodies and procedures performed by them, the coupling of legal concepts with phenomena in the environment. This can be observed in the case of expanding wholesale local access regulation to NGA infrastructures and in the case of VoIP, both addressed in the next two chapters. This confirms the hypothesis put forward by Scott as early as 1998 that regulatory institutions are becoming increasingly general,[277] not in the sense of transferring power to general competition authorities but in terms of broadening the scope of their activities to all the areas that can be perceived by law as electronic communications networks and services markets.

Nevertheless, in their pursuit of their legally set goals, these organisations will always have to rely on creating more legally relevant texts[278] without any guarantee that these texts actually make an impact on the environment. Paradoxically, this creation of text will even happen in the context of the de-regulatory activities based on the NRF programme itself: the Commission is obliged to draw up guidelines restraining *ex ante* regulatory activity,[279] whereas the ERG was in 2009 involved in the project of preparing guidance for transition from *ex ante* regulation to competition law.[280] The proliferation of norms is therefore a result of the organisations' (competing) legal competences established by law in pursuit of the (legal) idea of harmonisation, and not *a necessary need* of the changing communications business.

Accordingly, the emergence and functioning of ECTA could be linked to the increased complexity of both the regulatory process and telecommunications business.

[277] Scott, C., 1998, p. 244 and 249.

[278] See Luhmann, N., 2004, p. 306.

[279] See Recital 27 of the 2002 *Framework Directive*: "It is essential that ex ante regulatory obligations should only be imposed where there is not effective competition, i.e. in markets where there are one or more undertakings with significant market power, and where national and Community competition law remedies are not sufficient to address the problem. It is necessary therefore for the Commission to *draw up guidelines at Community level* in accordance with the principles of competition law for national regulatory authorities to follow in assessing whether competition is effective in a given market and in assessing significant market power."

[280] See 'IRG/ERG 2009 Work Programme' (2008) Available at http://erg.ec.europa.eu/doc/work_progr_2009/erg_08_48_wp_2009_final_081209.pdf, 29th October 2009: "The ERG will investigate the issues arising from the transition from sector specific regulation to competition law, particularly in markets removed from the list of relevant markets will be analysed in more detail."

Moreover, the described relationship between the Commission and the ERG, now BEREC, also confirms that no direct links between EU law and its institutions, and the technological and commercial environment exist. While the initial political impetus for the creation of said institutional framework might have relied on technology change, as suggested by Martin Selmayr's speech,[281] it was primarily the autopoietic institutional design and reference to the tasks set by the law that was the driving force behind the increased production of norms. While specific responses of the two organisations to changes in the environment, such as the *NGN Recommendation* or *Common Position on VoIP*, clearly demonstrate that the intensive coupling with the NGN environment has taken place, the intensity of the response and the quantity of documents produced remains an internal function of the autopoietic institutional setting, namely the two organisations and the EU communications law: first, the proliferation of norms encompasses not only NGN, but also other issues, e.g. leased lines[282]; second, NGN-related projects dealt with by the two organisations are not synchronised in time with the environment, but are processed according to the organisations' own activities plans, such as ERG Annual Work Programs and the relevant Commissioner's political agenda,[283] providing for the selection mechanism that cannot be directly controlled by outside factors such as stakeholders or politicians;[284] third, the role of both organisations has been largely limited to creating soft law, i.e. recommendations and common positions. Although these documents make it easier for the measures of NRAs to pass the 'Article 7' or judicial review proceedings, they all need to be translated into specific national measures in order to be able to affect actual business transactions. The cyclical linkage of identity and action of the two organisations is established on the harmonisation of the EU rules on regulation, not say on the efficiency of the

[281] See Steitz, C., 2007.

[282] 'Common Position on Best Practice in Remedies Imposed as a Consequence of a Position of Significant Market Power in the Relevant Markets for Wholesale Leased Lines, ERG (07) 54' (2007) Available at www.erg.eu.int/doc/publications/erg_07_54_wll_cp_final_080331.pdf, 1st January 2009.

[283] Commissioner Ms Reding, for example, put great emphasis on regulating mobile roaming and termination charges, although stakeholders strongly opposed her ideas.

[284] The *Roaming Regulation* can be seen as an example, whereby Commissioner Reding focused on cutting the roaming rates in favour of roaming end-users without a view to specific technological changes. See *Regulation (EC) No Regulation (EC) No 717/2007 of the European Parliament and of the Council of 27 June 2007 on roaming on public mobile telephone networks within the Community and amending Directive 2002/21/EC, as amended by Regulation (EC) No 544/2009 of the European Parliament and of the Council of 18 June 2009*.

environment or the effectiveness of regulatory measures in practice. In this respect, as also established by the general theory on regulation, regulatory organisations can re-invent themselves without a reference to the success of their original goals in the market.[285]

In the chapters that follow, it shall be demonstrated that this is not only an issue for institutions within this setting, but also for substantive law, no matter how much it attempts to adapt to the changing environment. While the above examples of institutional activities largely rely on the concept of pan-European harmonisation when developing more regulatory rules, other legal concepts of the EU regulatory framework also determine the scope and directions of its future evolution without constantly relying on the technological and business environment.

[285] See the example of Oftel's re-invention as competition authority described by Hall, C., Scott, C., Hood, C., 2000, p. 208-209.

4 THE EVOLUTION OF END-USER SERVICES REGULATION

This chapter will focus on one of the two mentioned key elements that have traditionally been part of (tele) communications law: end-user rights.[286] These have initially focused on (fixed) voice telephony[287] and, despite the fact that internet services have been relevant for a huge body of end-users since the second half of 1990s, remained the key concept of the EU communications law until 2009, when the "connection at a fixed location to the public telephone network and for access to publicly available telephone services at a fixed location" as the main element of universal service was replaced by "connection at a fixed location to a public communications network".[288]

This important role of voice telephony in the law has largely determined the intensive debates on the regulation of VoIP as a potential replacement for traditional circuit-switched telephony. Observations have been made, say by Bach and Sallet, suggesting a political preference for voice regulation,[289] e.g. for the purpose of making it more difficult for new technologies to compete with the established telephone incumbents. Other authors have put strong emphasis on the economic determination of VoIP regulatory policies: according to Dick, one will not see VoIP services make a full transition from peripheral to mainstream technology until regulators have clarified the regulatory position to give operators and investors greater certainty, and until the technology has improved enough that the quality of service and its ability to provide emergency services is clear.[290] Whereas it is not the intention of this thesis to discredit these views altogether, it is submitted that systems theory provides a clearer explanation of the role of voice services in the legal system.

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[286] See e.g. Walden, I., 2009, p. 11-12.

[287] See ibidem, p. 200.

[288] The initial Article 4 (1) of the 2002 *Universal Service Directive*: "Member States shall ensure that all reasonable requests for connection at a fixed location to the public telephone network and for access to publicly available telephone services at a fixed location are met by at least one undertaking' has been by the 2009 Citizens' Rights Directive replaced by the wording: 'Member States shall ensure that all reasonable requests for connection at a fixed location to a public communications network are met by at least one undertaking."

[289] Bach, D., Sallet, J., 2007, p. 2.

[290] Ibidem.

This chapter will demonstrate how the legal debates on VoIP have essentially evolved around the law's own internal concepts of voice telephony and their transformation, and not around political programmes, economy or technological change. With some exceptions, where the regulators were able to exercise more (political) discretion, say in the case of Ofcom's interim pragmatical views as to emergency calls, or in the case of ERG views on the nomadic use of geographic numbering,[291] legal responses, even when they considered more fundamental changes of the law based on applied IP technology, have always been about fitting VoIP into the law, and not about questioning the relevance of the legal regulation of voice telephony. While the 2002 review of the EU regulatory framework has resulted in a more technology-neutral definition of public telephony,[292] it continued the legacy of detailed regulation for voice,[293] e.g. by mandating operator assistance services and directory enquiry services,[294] without any specific proof that this required public intervention.[295]

[291] See below.'ERG Common Position on VoIP ERG (07) 56rev' (2007) Available at www.erg.eu.int/doc/publications/erg_07_56rev2_cp_voip_final.pdf, 31st January 2009.

[292] See Article 2(c) of the 2002 *Universal Service Directive*: "'publicly available telephone service' means a service available to the public for originating and receiving national and international calls and access to emergency services through a number or numbers in a national or international telephone numbering plan, and in addition may, where relevant, include one or more of the following services: the provision of operator assistance, directory inquiry services, directories, provision of public pay phones, provision of service under special terms, provision of special facilities for customers with disabilities or with special social needs and/or the provision of non-geographic services."

[293] A similar legacy issue can be observed in the case of (IP) television. During the *Television Without Frontiers Directive* review process, it was constantly assumed that the new audiovisual media services provided over the IP protocol, be it on demand or in linear form, somehow require legal 'coverage' resembling that of traditional television, notwithstanding non-legal arguments against it. Barendt, for example, observes that television content regulation was traditionally justified by spectrum scarcity, which allowed only for a limited number of television channels, and the perception of airwaves as public resources. Barendt, E. M., 1995, p. 5-9. See also Van Loon, A., 2004, p. 181-2. Though the final version of the *Audiovisual Media Services Directive* did not automatically include all internet video into the concept of 'television', this does not in any way change the observation as to the law's self-evolution: the primary material for change stems from the law's own established concepts. See Recital 16 of the D*irective 2007/65/EC*: "For the purposes of this Directive, the definition of an audiovisual media service should cover only audiovisual media services, whether television broadcasting or on-demand, which are mass media, that is, which are intended for reception by, and which could have a clear impact on, a significant proportion of the general public. Its scope should be limited to services as defined by the Treaty and therefore should cover any form of economic activity, including that of public service enterprises, but should not cover activities which are primarily non-economic and which are not in competition with television broadcasting, such as private websites and services consisting of the provision or distribution of audiovisual content generated by private users for the purposes of sharing and exchange within communities of interest."

[294] See Article 25 of the 2002 *Universal Service Directive*.

[295] Recital 34 of the 2002 *Universal Service Directive* is exceptionally weak in arguments provided: "All end-users should continue to enjoy access to operator assistance services whatever organisation provides access to the public telephone network." The 2009 *Citizens' Rights Directive*, which finally

It is argued that EU law has in fact developed mechanisms enabling it to respond to technology change faster. The regulators are able to exercise discretion, and the definitions of public telephony are less determined by specific circuit-switched technology. However, both discretionary rights and technological neutrality are internal concepts of the law, bound to its own regulatory programmes focusing on voice telephony.

This can also explain the fundamental difficulties faced by the proponents of the new forms of regulation such as net neutrality. The law is by means of its internal programmes unable to compare the relevance of voice telephony and net neutrality regulation if the latter is not part of them, i.e. if it net neutrality debates are not adequately juridified. Accordingly, it shall be argued that getting net neutrality on the legal regulatory agenda, as is the case with the 2009 Framework review, is only the starting point for the development of the relevant legal discussions, which may later rely on the law's internal concept of proportionality and couple with economic analysis.

4.1 Legal regulation of VoIP

VoIP or IP telephony constitutes a service that uses IP protocol to transmit voice. Many forms of VoIP are now used to replace traditional circuit-switched telephony (POTS). For this analysis, VoIP represents a crucial issue: while it uses internet (IP) technology, whose use has traditionally been almost unregulated by the telecommunications law both in Europe and the US, it may also serve as a substitute for traditional telephony that has been traditionally the subject of heavy regulation, first in the form of state monopoly and later on in the form of universal service. Accordingly, the regulation of VoIP, which as a rule functionally replaces POTS in

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removed operator assistance obligation declared in Recital 37 that: "Operator assistance services cover a range of different services for end-users. The provision of such services should be left to commercial negotiations between providers of public communications networks and operator assistance services, as is the case for any other customer support service, and it is not necessary to continue to mandate their provision. The corresponding obligation should therefore be repealed." It is far from clear why the situation in 2002 was any different in this respect from the one in 2009, bearing in mind that interconnection options for this type of service providers already existed at the time.

NGNs, can be seen as a test of the telecommunications law's ability to adapt to new technological and commercial phenomena.

VoIP or IP telephony is commonly described as transport of voice via Internet Protocol, whereas classifications of VoIP as a service have also been made by the International Telecommunications Union (ITU) primarily for standardisation purposes (e.g. ITU-T H.323 protocol), without ambitions to attach to them specific legal effects. Legal classifications of VoIP are of course different due to their ability to produce effects within the legal system. In addition, as Bach and Sallet warn, they always attempt to fit VoIP into existing categories of communications services that are already part of the legal system.[296] A historical example for this can be found in the introduction of voice telephony (POTS), whereby the latter was increasingly seen as competition for the existing telegraphy business and was finally held to constitute a 'form of telegraph' in the historical Edison case.[297] Whereas Bach and Sallet see legal classification of VoIP primarily as a matter of political and business interests whereby legal definitions are 'abused' in order to achieve a certain goal, systems theory provides for an explanation how the law as a system itself makes such results possible: politicians and business lobbyists can only bet on certain *legal* classification of VoIP if the latter can be constructed as part of the legal system by the relevant authorities. In this respect, the evolution of the regulatory classification of VoIP in Europe has been largely determined by two essentially legal factors: the lack in the relevant legal framework of a specific definition of VoIP as a new service and the division of powers between the EU authorities, especially the European Commission and the national regulatory authorities (NRAs) of Member States, including the ERG as their body.

EU law image of voice telephony

The regulatory approach to VoIP of the European Commission was for the first time generally explained in the Commission Notice Status of voice communications on

[296] Bach, D., Sallet, J., 2005, p. 1.

[297] AG v Edison Telephone Company of London (1880) 6 QBD 244. For more history, see Walden, I., 2009, p. 124.

internet under Community law and, in particular, pursuant to *Directive 90/388/EEC*.[298] The Commission studied VoIP from the end-user experience point of view and made a distinction between computer-to-computer, computer-to-phone and phone-to-phone types of VoIP. The differences between these types, the Commission argued, were based on the fact that, in order to communicate, the users were either connected to the internet via public switched (fixed) network termination points or dedicated connections (or other means) not employing such termination points. These types of VoIP were then considered from the point of view of the European regulatory framework set both in the 90/3888 competition directive and further liberalisation directives. In particular, it was discussed whether VoIP could be considered to be a voice telephony service, which was defined as the 'commercial provision for the public of the direct transport and switching of speech in real-time between public switched network termination points, enabling any user to use equipment connected to such a network termination point in order to communicate with another termination point'.[299]

The Commission first found that at the time of the notice, voice service was ancillary to other elements of an integrated internet service that end-users choose for a number of reasons, such as browsing, e-mail, and downloading of files and data. This meant that offering VoIP was not to be considered as 'commercial'. The Commission pointed out that only where phone-to-phone internet telephony was marketed in the European Union as an alternative form of voice telephony service, would the organisation concerned be considered to be making a commercial offer. Similarly, in the case of PC-based voice communications, if the provision of a dial-out facility to any telephone number became a decisive element in the service providers commercial strategies, they could be considered commercially to be the transport of voice.[300]

On the issue whether VoIP was offered for the public, it was the Commission's opinion that in the case of computer-to-computer voice services, although only users

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[298] 98/C 6/04. See Article 1 of the *COMMISSION DIRECTIVE of 28 June 1990 on competition in the markets for telecommunications services (90/388/EEC)*. See also e.g. Walden, I., 1996, p.226-31.

[299] 98/C 6/04.

[300] Ibidem.

who subscribed to an internet service provider (ISP) providing access to the internet and who used compatible software would be able to use the internet for calling each other, it could be argued that computer-to-computer internet voice was provided 'for the public', since the service would be available to all members of the public on the same basis. The criterion would, however, definitely be met by both computer-to-computer and phone-to-phone services, whereby any necessary conversion of the signal was taken care of by the organisation offering the service, as these type of services were available to all members of the public who wished to enter into the commercial arrangement with the provider.[301]

The Commission went further to explore whether VoIP connected two termination points on the public switched network (PSTN) at the same time. These termination points were those defined by subscriber numbers from the national telephone numbering plan, based on ITU classification commonly known as E.164 numbers. Accordingly, the Commission said, a VoIP call that was originated via leased-circuit-based internet access could never qualify as voice telephony. In addition, a VoIP service used by subscribers whose computers were connected via a modem and who were using compatible software was also not 'voice telephony', because it was not 'enabling any user to communicate with another termination point' in the sense of 'any user to any user'. However, in cases of computer-to-phone or phone-to-phone internet voice this element would be satisfied.

As to the issue of real-time communication requirement, the Commission stressed that internet telephony could not originally be considered to take place in real-time. The Commission invoked a technical argument: according to VoIP basic technique, the voice is digitally encoded, packed and sent by a user from a termination point to a server and on to the reception server, which in turn sends it to the receiver equipment that is connected to a termination point, which assembles the packets to be delivered as voice via the loudspeaker. The time period required for processing and transmission from one termination point to the other was generally still such that it could not be considered as of the same quality as a standard real-time service.[302] The

[301] Ibidem.

[302] Ibidem. Compare also the Hungarian position of the time where acceptable delay was legally prescribed (=/>250ms), see *ITU IP Telephony Workshop document IPTEL/03*, 29 May 2000, p 23.

Commission further pointed out that at least part of any VoIP transmission was over the internet (which at the time had only one class of services), making it subject to an unpredictable congestion risk that prevents the provider from guaranteeing the same level of reliability and speech quality as in the case of PSTN. Nevertheless, the Commission noted that in the case of those phone-to-phone services where providers guarantee quality by bandwidth reservation and make claims that the quality of the service is the same as circuit-switched PSTN voice, this element of the voice telephony definition would obviously already have been met.[303] Accordingly, the Commission anticipated the migration of VoIP to managed IP (NGN) networks.

Looking at the above Commission analysis, one can note that it is not about exploring technical or business potential of VoIP but rather about checking whether it fits into a legal definition that existed before its widespread commercial application. Contrary to Bach and Sallet suggestion that regulators could be expected to make a use of old legal definitions in order to place a burden on VoIP providers, the Commission concluded that VoIP services fell within the liberalised area established before the deadlines set for the implementation of full competition. They nevertheless noted that there were already new voice communications services offered to the public by means of employing internet technology. Therefore, they believed further review was necessary.

In 2000, a supplement was added to the original communication[304] as the Commission considered that some further clarification was needed. The Commission expressly pointed out that it was not impossible for certain VoIP services to satisfy the criteria for voice telephony service. In addition, as in case of the ITU position, a distinction was made between voice over the internet and voice over IP.[305] Consequently, the Commission affirmed the 'real-time transport' conclusion of the 1998 notice on voice services over the public internet, but noticed that the 'real-time' condition could be satisfied when a voice service was generally regarded and used by

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[303] Ibidem.

[304] *Communication from the Commission - Status of voice on the Internet under Community law, and in particular, under Directive 90/388/EEC - Supplement to the Communication by the Commission to the European Parliament and the Council on the status and implementation of Directive 90/388/EEC on competition in the markets for telecommunications services (2000/C 369/03).*

[305] Ibidem.

a consumer as a substitute for voice services over a circuit-switched PSTN by virtue of its characteristics, in particular its level of quality and reliability.[306] This condition should also be considered as satisfied where the provider of the service guarantees its customers PSTN-like quality and reliability.[307] Lastly, the Commission observed actual and possible developments in the commercial offering of VoIP and concluded that, when operators marketed a combination of a voice service and data service which, although distinct and clearly separable, were bundled within the same commercial package, the Commission would consider this package as comprising two commercial offers; a voice service could be considered as separable from a data service, even though they were usually offered together under commercial usage.[308]

A major change in the EU regulatory framework in 2003 introduced new definitions of services, making the previous discussion on the status of VoIP largely obsolete. In addition, the 2003 "new regulatory framework" (NRF) itself highlighted technological neutrality,[309] which is also reflected in its definitions of electronic communications services and publicly available telephone services (PATS). Despite coupling with European political legislative processes, however, one could hardly see this change as either regulatory forbearance or toughening rules in respect of VoIP. Further diverging developments described below suggest that it should primarily be attributed to the promotion of the EU law's concept of telephony in an evolving environment, regardless of specific policy results.

According to the 2002 *Framework Directive*, an electronic communications service means a service normally provided for remuneration, which wholly or mainly consists of the conveyance of signals on electronic communications networks, including telecommunications services and transmission services in networks used for broadcasting, but excludes services providing or exercising editorial control over content transmitted via electronic communications networks and services; it does not include information society services, as defined in Article 1 of *Directive 98/34/EC,* which do not wholly or mainly consist of the conveyance of signals on electronic

[306] Ibidem.

[307] Ibidem.

[308] Ibidem.

[309] Article 8, Paragraph 1 of the 2002 *Framework Directive*.

communications networks. Electronic communications services can be either private or provided to the public, i.e. public electronic communications services.[310]

The 2002 PATS definition does not address the underlying switching technology of the service (i.e. circuit- or packet-switching), but instead focuses on its *functional* features. According to the *Universal Service Directive*, PATS are defined by four essential elements as services (1) available to the public (2) for originating and receiving national and international calls and (3) access to emergency services (4) through a number or numbers in a national or international telephone numbering plan, and in addition may, where relevant, include one or more of the following services: the provision of operator assistance, directory enquiry services, directories, provision of public pay phones, provision of service under special terms, provision of special facilities for customers with disabilities or with special social needs and/or the provision of non-geographic services.[311] Falling under the definition has three important consequences. First, once a service is recognised by an NRA as PATS, the service provider will need to fulfil all the public and consumer interest requirements of the directives that apply to PATS, such as transparency and publication of information,[312] quality of service,[313] access to 112 emergency services,[314] operator assistance and directory enquiry services,[315] and network integrity in case of disaster.[316] In this respect, the definition is circular: if an operator provides access to 112 emergency services, they are PATS and have an obligation to do so. Literally, this means that one could escape the public interest obligation to provide emergency services simply by not providing such services. Second, the privilege of number portability and carrier (pre-)selection only applies to those services that fulfil the criteria for PATS.[317] In addition, only PATS users have the right to be listed in a public telephone directory.[318] Third, PATS service may qualify as part of Universal

[310] See Article 2 of the 2002 *Framework Directive*.

[311] See Article 2 of the 2002 *Universal Service Directive*.

[312] Article 21 of the 2002 *Universal Service Directive*.

[313] Article 22 of the 2002 *Universal Service Directive*.

[314] Article 26 of the 2002 *Universal Service Directive*.

[315] Article 25 of the 2002 *Universal Service Directive*.

[316] Article 23 of the 2002 *Universal Service Directive*.

[317] Article 20 of the 2002 *Universal Service Directive*.

[318] Article 25(1) of the 2002 *Universal Service Directive*.

Service that has to be provided on the territory of each Member State.[319] Nevertheless, the NRF enables the establishing of Universal Service funding mechanisms where all of the providers of electronic communications networks and services, and not just providers of PATS, are required to contribute.[320] Accordingly, non-PATS VoIP providers may also qualify for mandatory Universal Service contributions[321], which makes the definition scope less relevant for direct policy results.

The Commission initiated a research on the regulatory treatment of VoIP under the new framework, which can be seen as another indicator of unclear guidance by the policy-makers despite largely predictable changes in voice telephony business. Analysys, a consultancy, prepared a report on IP Voice and Associated Convergent Services.[322] The Report considered VoIP in the context of both general electronic communications service definition and PATS definition. According to the Report, there were two ways VoIP services could be included in or excluded from the definition of PATS, namely by adopting either a broad or a narrow definition of PATS. According to the narrow definition, any provider that did not offer access to emergency services was not PATS. In this case, however, public safety concerns were raised by Analysys, that is that not offering emergency access could be used as an arbitrage to avoid the regulation of PATS. According to the broad definition, any service provided in competition with PSTN, i.e. as a substitute for PSTN, was PATS. This definition, on the other hand, could place unwanted burden upon many VoIP providers that indeed did not provide services equivalent to PSTN. Analysys believed there was no obvious answer as to which approach should be taken. However, they considered pragmatic solutions, such as using similar tolerance regarding emergency calls for mobile operators and VoIP service providers, provided the reduced quality was made clear to end-users.

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[319] Article 4 of the 2002 *Universal Service Directive*.

[320] See Article 14 para. 1 of the *Universal Service Directive*. See also *IP Voice and Associated Convergent Services, Final Report for the European Commission* (Analysys, 28 January 2004), p. 92.

[321] See also *Commission Staff Working Document on the Treatment of Voice over Internet Protocol (VoIP) under the EU Regulatory Framework – An Information and Consultation Document* (Brussels, 14 June 2004), p. 11.

[322] *IP Voice and Associated Convergent Services, Final Report for the European Commission* (Analysys, 28 January 2004).

The Report considered various types of VoIP services: self-provided services based on applications running on the computer terminal equipment of end-users (DIY), services independent of internet access (e.g. Vonage), services provided by the broadband access service provider, services for corporate internal use over corporate LAN or WAN, and services for carrier internal use. According to Analysys, DIY services such as Skype were not a replacement for telephone services, because they did not enable calls to PSTN, whereas both Vonage-alike services and services offered by the broadband access provider enabled communication with PSTN subscribers. An important distinction between the two, however, was that broadband access providers' offers might include end-to-end quality guarantees.[323] Carrier internal use VoIP services, on the other hand, did not represent a fundamental benefit on the side of the end-user experience, but were instead motivated by cost-savings on the part of the fixed operators.[324] According to the Report, self-provided services were unlikely to fall within the scope of electronic communications services and generally would not be subject to the NRF authorisation regime. The reason was that these services were not 'provided for remuneration'. The fact that paid-for equipment and software was used was deemed irrelevant, because these were goods according to the general EC Treaty distinction between goods and services.[325]

Later, in 2004, the Commission launched a public consultation on the regulatory treatment of VoIP under the NRF.[326] The consultation document was largely based on the findings of the *Analysys Report*, including its classification of VoIP services. According to the Commission document, VoIP services could have the 'look and feel' of a publicly available telephone service, but do not offer access to emergency calls. In the Commission's view, there were two broad regulatory approaches to such problems: one was to impose traditional PSTN obligations upon all new telephone-like services; the other, which was also generally the Commission's approach, was to ensure that consumers were fully informed and could make their own choices, while encouraging suppliers to find new technical solutions in respect of emergency calls.

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[323] Ibidem, p. 20-23.

[324] Ibidem, p. 24.

[325] Ibidem.

[326] *Commission Staff Working Document on the Treatment of Voice over Internet Protocol (VoIP) under the EU Regulatory Framework - An Information and Consultation Document* (Brussels, 14 June 2004).

This reluctance by the Commission to put together clear policy guidelines in the context of a rather open NRF definition was reflected in Member States' NRAs' policies. ERG Common Statement for VoIP Regulatory Approaches revealed a diversity of Member State approaches towards VoIP, despite a uniform regulatory framework on the Community level. The Statement concluded that at that point no common conclusions on the evolution or revolution of the market by VoIP could be drawn, because the market had not yet developed sufficiently.[327]

Absent detailed harmonised guidance, European NRAs that had to apply the EU law at the national level took different approaches that did not seem to follow specific national market circumstances but rather their legal tradition and the regulators' own autopoietic attitude: whereas some VoIP services such as Skype were equally accessible across Europe and whereas broadband technology and services development enabling managed VoIP did not fundamentally differ across jurisdictions, the cases of three regulatory authorities analysed below differ in both approach and results.

Applying the same EU definition, Ofcom, the only Common Law jurisdiction regulator in Europe, generally favoured a rather pragmatic, business- and consumer-oriented approach to VoIP classification, whereby legal definition coupled with end-user cost-benefit analysis. Accordingly, a great deal of Ofcom's debate on VoIP classification was and is still linked to the market role of VoIP and consumer aspects. Ofcom's handling of the issue simultaneously points at both potential flexibility of the EU voice telephony definition provided that it is applied within a rather flexible Common Law regulatory model, and its limits that can be seen as an inevitable part of the legal form.

Under the old regulatory regime based on the pre-2002 ONP directives, Oftel as Ofcom's predecessor considered that a VoIP service should be regulated as public voice telephony if any of the following applied:

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[327] 'ERG Common Statement for VoIP Regulatory Approaches ERG (05) 12' (2005) Available at http://erg.ec.europa.eu/doc/publications/erg0512_voip_common_statement.pdf, 15th August 2009, p. 5.

- the service was marketed as a substitute for traditional PSTN voice services; or
- the service appeared to the customer to be a substitute for public voice telephony; or
- the service provided the customer's sole means of access to the traditional circuit switched PSTN.

However, where a VoIP service was clearly being offered as an adjunct to a traditional circuit switched PSTN voice telephony service or as a secondary service, it was likely not to be considered as public voice telephony.[328]

In response to further developments in VoIP services and discussions with stakeholders, Ofcom published a consultation document entitled *New Voice Services: A consultation and interim guidance on 6 September 2004*. In the consultation, Ofcom recognised that a balance had to be struck between creating the right conditions in which new voice services and new providers could enter the market, and ensuring that consumers would be properly informed and protected. Ofcom favoured an approach that allowed new services to enter the market, whilst enabling consumers to make informed choices and take advantage of these new services. In particular, Ofcom's initial views expressed in the consultation were that it was not desirable for all voice services to be required to offer the same features as traditional telephone services, including emergency services. Instead, consumers should be enabled to make informed decisions. This would help new companies create new products and offer consumers more choice. In addition, it was not desirable to rely on criteria such as the appearance of a service or whether it was used as a second line in order to draw a distinction between those services that were regulated in a similar way as traditional telephone services and those that were not. Instead, providers should be allowed to offer a range of differentiated services, and consumers should be made able to make informed decisions about the products they were buying and using.[329]

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[328] See 'Frequently asked questions on the regulation of Voice over Internet Protocol Services, Director General of Telecommunications' (2002), April, Available at www.internetpolicy.net/telco/020402oftelguidelines-voip.pdf, 30th Marc 2011.

[329] *New Voice Services: A consultation and interim guidance* (Ofcom, 6 September 2004).

Ofcom proposed a slightly different classification of VoIP services than the Commission. In the centre of so-called 'New Voice Services' were VoB services; although some of IP voice services could be used over a narrowband dial-up connection, in practice the always-on connection and higher bandwidth offered by VoB services made them a much more compelling service . These services could take various forms such as PC to PC, PC to phone, and phone-to-phone. Ofcom further identified the characteristics of New Voice Services: location and network independence that enables nomadicity, dependence of reliability on broadband connection, potential for new features, and lower costs.[330]

In 2006, a public consultation on VoIP was re-initiated by Ofcom on the basis of the observation that, in the 16 months since 2004 consultation, there had been a number of further market and regulatory developments that required a reassessment of Ofcom's previous proposals to ensure their objectives in relation to VoIP services were achieved.[331] In particular, Ofcom declared that there was a need to discontinue 'interim forbearance'[332] from regulation in relation to access to emergency services as proposed by the 2004 document. In their statement and further consultation document, Ofcom observed that the diversity of equipment, feature and business models for VoIP was expected to continue, and that VoIP development was closely linked to broadband access and NGN developments.[333] Instead of 'New Voice Services', the 2006 consultation expressly used the term 'VoIP'.[334]

An important reason for the new consultation was the observation that, in informal talks, the European Commission showed no intention for further clarifying the VoIP status in relation to the PATS definition.[335] Accordingly, Ofcom considered that all VoIP services fulfilling the four PATS criteria were automatically PATS, whereas other VoIP services were not PATS.[336] There was therefore no reason to further

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[330] Ibidem.

[331] *Regulation of VoIP Services: Statement and further consultation* (Ofcom 2006), p. 12 et seq.

[332] Ibidem, p. 17.

[333] Ibidem, p. 10-11.

[334] Ibidem, p. 13.

[335] Ibidem, p. 24.

[336] Ibidem, p. 24.

forbear from regulation of certain VoIP services. The end of the forbearance policy was also reflected in the full inclusion of VoIP-based PATS providers into the number portability system.[337]

Cases of other European NRAs in Civil Law jurisdictions consistently and by means of public procedures addressing VoIP services are limited.[338] Based on the availability of data and in-depth analysis as to VoIP services, particularly Skype, the examples of Finland and Italy have been studied more closely. In both cases, as one could expect in Civil Law jurisdictions, the regulators' arguments focused on interpreting the statutory definition rather than creating their own policy arguments. However, analysis results of the two authorities differ, which should be, absent differences in the analysed environment i.e. Skype services, attributed to divergent autonomous national regulators' attitudes towards new market developments.

FICORA, the Finnish regulator, dealt with VoIP classification in several cases. According to their 2006 opinion, fixed-network subscriber numbers that are nationwide or specific for a numbering area could be used in all VoIP services provided in telephone networks. The use of mobile numbers, however, was not possible with VoIP.[339] As to the regulatory status of VoIP, the 2006 FICORA document first considered what types of VoIP were relevant for regulatory purposes and established that if an operator used IP technology merely to transmit calls in the backbone network, this did not have an impact on the legal treatment of the telephone services provided to the customers.[340]

Unlike the majority of other European regulators,[341] FICORA specifically dealt with the regulatory status of Skype, including Skype In and Skype Out services that upgraded the peer-to-peer computer-based Skype with the further functionality of making and receiving telephone calls via E.164 numbering. The position of FICORA regarding peer-to-peer computer-based IP telephony was that VoIP services that were

[337] Ibidem, p. 33.

[338] See e.g. '*ERG Report on VoIP and Consumer Issues*' (2006).

[339]FICORA's 'Opinion on the use of telephone numbers in VoIP services' (2006) Available at www.ficora.fi/attachments/englanti/5jZV5jrAi/Files/CurrentFile/VoIP_English.pdf, 9th April 2007.

[340] Ibidem.

[341] See '*ERG Report on VoIP and Consumer Issues*' (2006).

based on peer-to-peer network technology and operated distinctly in the internet did not fulfil the current definition of a communications service, because the service provider did not participate in the transmission of messages in a way referred to in the *Communications Market Act*.[342] Accordingly, FICORA reiterated the Commission's opinion that such services were not part of the EU regulatory framework, as there was no ongoing provision of service, but rather just the provision of computer software.[343] Therefore, the original peer-to-peer Skype was not a communications service, but rather an information society service.[344] As its service provider was established in Luxembourg, there was no Finnish jurisdiction under the country of origin rule of the *E-commerce Directive*.[345]

However, if there was access from a VoIP service to a telephone network, this service constituted a transmission of messages in a communications network that was in the possession of the service provider or hired from a network operator. In such a case the VoIP service provided was a communications service. If such a service was publicly available, it was also a communications service referred to in the *Act on Protection of Privacy in Electronic Communications*.[346] Under Finnish legislation, certain obligations were imposed on 'telecommunications operators in a telephone network'. A telecommunications operator acted in a telephone network in a way referred to in the *Communications Market Act*, if it provided network services or communications services in a telephone network. To be a telecommunications operator in a telephone network, the operator needed not provide subscriber connections to end-users.[347] According to FICORA, a telecommunications operator providing VoIP services was also operating in a telephone network if the service provided a connection to a telephone network. In a VoIP service this primarily meant

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[342] Page 6 of FICORA's 'Opinion on regulation of Skype services in Finland' (2005) Available at www.ficora.fi/attachments/englanti/1156489126854/Files/CurrentFile/Skype_final_English.pdf, 21st April 2007.

[343] Ibidem.

[344] Ibidem, p. 10.

[345] See Article 3 of the *Directive 2000/31/EC of the European Parliament and of the Council of 8 June 2000 on certain legal aspects of information society services, in particular electronic commerce, in the Internal Market (E-Commerce Directive)*.

[346] FICORA's 'Opinion on regulation of Skype services in Finland' (2005) Available at www.ficora.fi/attachments/englanti/1156489126854/Files/CurrentFile/Skype_final_English.pdf, 21st April 2007.

[347] Ibidem.

that phone calls could be originated from the service to a telephone network and/or received from a telephone network.[348]

The Finnish law further used the definition of 'subscriber connection'. In its previous decision issued in 2003 to TeliaSonera Finland Oyj, FICORA had established that a subscriber connection to a telephone network in the *Communications Market Act* meant the same as a publicly available telephone service in the EU *Universal Service Directive*: such a connection could be regarded as a service for originating and receiving national and international calls and access to emergency services made available to the public. Therefore, in order to conform to the definition of a telephone service available to the public, and accordingly, the definition of a subscriber connection, the VoIP service in question must enable *both* the originating and receiving of national and international calls through a number in a national or international telephone numbering plan.[349] Accordingly, in order to regard a VoIP service as two separate services, it should also be possible to buy them and use them as separate services.[350]

This was also the case with Skype In and Skype Out, both of which were separate from the contractual point of view and did not even together form a subscriber connection to a telephone network, but were by the nature of communications services provided in the telephone network.[351] An interesting conclusion was reached by FICORA as to its jurisdiction over Skype In and Skype Out services: whereas Skype In service used Finnish numbering and was therefore under FICORA jurisdiction, Skype Out has no such connection to Finland: the service neither used Finnish numbering, nor was it particularly aimed at Finnish users.[352] In particular, FICORA noted that the location of the Skype Out user did not affect the way the service was provided[353] and that, from a technical perspective, calls to Finland by

[348] Ibidem, p. 7.

[349] Ibidem, p. 8.

[350] Ibidem.

[351] Ibidem, p. 10-11.

[352] Ibidem, p. 12.

[353] In order to call a number in Finland, it still had to be internationally composed.

Finnish Skype Out users could be compared to international incoming calls.[354] As a consequence, the obligation of 'telecommunications operators in a telephone network' to offer emergency services did not apply to Skype Out.[355]

A different approach was taken by the Italian regulator AGCOM: if the service can be configured as Skype Out (no E.164 numbers right of use required), the subject who provides the service to the public requires an electronic communications service general authorization.[356] In cases where the service can be configured as both Skype In and Skype Out, there are two possibilities: that (a) the operator assigns geographical numbers to users: a PATS authorization is required to get the rights of use of these numbers, or (b) that the operator assigns non-geographical numbers to users (a specific code 55 has been introduced for nomadic VoIP services): an electronic communications services general authorization is required to get the right of use of these numbers. In both cases the operator has to provide number portability, access to emergency services and lawful interception.

Equally based on the 2002 PATS definition but trying to find a way around it is the 2009 *ERG Common Position on VoIP*,[357] a document that finally provided for a thorough harmonising 'to do' list for European NRAs when dealing with VoIP. The document only uses service classification in order to put forward specific policy goals as to emergency services and numbering, while limiting them to those services that functionally resemble traditional telephony. The document introduces the so-called category 4 VoIP service, which is defined as a service where incoming and outgoing access to the PSTN and mobile network and E.164 numbers are provided.[358] According to the document, this category therefore includes traditional PATS, other services which can generally be regarded as a substitute for PATS (like most VoB

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[354] Page 12 of FICORA's 'Opinion on regulation of Skype services in Finland' (2005) Available at www.ficora.fi/attachments/englanti/1156489126854/Files/CurrentFile/Skype_final_English.pdf, 21st April 2007.

[355] Ibidem, p. 16.

[356] Page 23 of '*ERG Report on VoIP and Consumer Issues*' (2006) Available at http://erg.eu.int/doc/publications/erg_06_39_report_voip_cons_aspects.pdf, 30th March 2011.

[357] 'ERG Common Position on VoIP, ERG (07) 56rev2' (2007) Available at http://www.erg.eu.int/doc/publications/erg_07_56rev2_cp_voip_final.pdf, 31st January 2009.

[358] Ibidem, p. 4.

offers) and (other) 'electronic communications services' VoIP.[359] This concept largely bypasses the circular 2002 Framework definition of PATS that literally enables an operator to avoid public interest obligations by simply not providing emergency access. It is questionable, though, whether this ERG's clearly activist approach could pass the test of legal validity if referred to the courts.

This ERG idea has successfully coupled with the political legislative process, however, which rendered such dilemmas unnecessary: in the 2009 NRF legislative review, the *Citizens' Rights Directive* defined PATS as a "service made available to the public for originating and receiving, directly or indirectly, national or national and international calls through a number or numbers in a national or international telephone numbering plan".[360] Accordingly, the option for service providers to provide or not to provide PATS based on emergency access availability has been removed. In addition, to reflect potential complexities in relation to accurate emergency caller location information relating to the use of VoIP services, Article 26(5) of the *Universal Service Directive* has been amended with the following wording: "Competent regulatory authorities shall lay down criteria for the accuracy and reliability of the caller location information provided."[361] This clear phylogenetic change in the legislative framework largely rendered previous debates on PATS definition and VoIP obsolete.

US law - an alternative perception of VoIP

Whereas the above European examples reveal the relative 'stickiness' of the autopoietic legal image of voice telephony regardless of technological developments, one could still argue that European law was simply developing towards the most efficient solution for regulating voice telephony in the changing market circumstances. However, the comparative US case of VoIP regulation that is based on entirely different legal concepts demonstrates how autopoietic evolution of legal

[359] Ibidem, p. 4.

[360] See Article 2 of the 2009 *Universal Service Directive*.

[361] See 2009 *Universal Service Directive.*

systems has led to diverging solutions despite similar levels of technological and market developments on both sides of the Atlantic.

The US approach to VoIP classification is strongly determined by the historically-based division between and 'telecommunications' and 'information' services contained in the US telecommunications legislation.[362] The evolution of the system, however, is largely determined by the broad powers of the FCC[363] that enable it to create adequate policies based on these rather vague statutory definitions.

Whereas the first type of service is subject to stringent regulation, there is virtually no regulation attached to the second type of services.[364] With this distinction, Congress sought to give the internet, an unregulated 'information service', the opportunity to grow and develop in an environment free of regulatory restraints.[365] One should observe, however, that the said distinction has much deeper roots. It is based on the Computer Inquiry rulings[366] that first drew a distinction between services that formed an integral part of the telecommunications network and upper protocol layers services that could be provided relatively independently from the underlying telecommunications infrastructure. Accordingly, the US legislation defines telecommunications as 'the transmission, between or among points specified by the user, of information of the user's choosing, without change in the form or content of the information as sent and received', telecommunications service as the "offering of telecommunications for a fee directly to the public, or to such classes of users as to be effectively available directly to the public, regardless of the facilities used."[367] Information services, on the other hand, are defined as "the offering of a capability for generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information via telecommunications, and includes electronic publishing, but [do] not include any use of any such capability for the

[362] 47 U.S.C. 153.

[363] These powers can be compared to the powers of Ofcom. See Lee, K.; Prime, J. in: Walden, I., Angel, J., 2005, p. 517.

[364] Leisinger, A. L., 2006, p. 593.

[365] Ibidem.

[366] See 28 FCC 2d 267 (1971), 77 FCC 2d 384 (1980), 104 FCC 2d 958 (1986).

[367] 47 U.S.C. 153.

management, control, or operation of a telecommunications system or the management of a telecommunications service."[368]

The FCC has dealt with the above division in respect of VoIP on several occasions.[369] In the so-called 'Stevens Report' to the Congress from 1998, the FCC in principle determined that VoIP constituted an unregulated information service, even if it was offered in conjunction with telecommunications services.[370] However, phone-to-phone VoIP might constitute a telecommunications service in cases where the provider satisfies four criteria:

- it holds itself out as providing voice telephony or facsimile transmission service;
- it does not require the customer to use equipment different from the equipment necessary to place an ordinary touch-tone call over the public switched telephone network;
- it allows the customers to call telephone numbers in accordance with the North American Numbering Plan and associated international arrangements;
- it transmits customer information without net charge in form of content.[371]

Using the above test, the US District Court for the District of Minnesota also confirmed the 'information service'-status of VoIP in their ruling on Vonage's DigitalVoice service.[372] The court's decision was based on the DigitalVoice alteration of communication by means of its conversion into digital packets.[373] A different determination, however, was reached by the FCC in the AT&T VoIP service. The FCC found that this service did constitute a telecommunications service, because it did not provide any enhanced functionality as required for an 'information service' classification.[374] The issue was that the users of the service may not even know that they are using this type of service, as it is only using an IP-based backbone instead of

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[368] 47 U.S.C. 153.

[369] 'Stevens Report' to the US Congress, 1998.

[370] Ibidem, p. 594.

[371] Ibidem, p. 595.

[372] 290 F.Supp. 2d at 999. See also ibidem, p. 596.

[373] See e.g. Leisinger, A. L., 2006, p. 597.

[374] Ibidem.

a traditional circuit-switched backbone. The FCC further ruled on the Pulver.com's FWD service that was used to connect one online subscriber with another online subscriber using a high-speed internet connection.[375] The FCC found that this type of service only used the telecommunications service. The service itself, however, did not constitute a telecommunications service.[376] The jurisdictional division of the 1996 Act has also been addressed by the FCC. Upon petition by Vonage, the FCC ruled that the provider's DigitalVoice service constituted a jurisdictionally mixed service, because regulators could not readily separate intrastate and interstate elements, which pre-empted state regulation.[377] However, the FCC did not expressly state that Vonage was an "information service".[378] A general proceeding and public debate on the regulatory status of so-called IP-enabled services has been initiated by the FCC in 2004. The discussion, however, does not seem to have yielded final results in all the areas of regulation.[379] There were also attempts in the Congress to regulate VoIP with a separate piece of legislation and thereby limit the impact of the 1996 Act classification scheme on VoIP.[380]

Analysing the US approach to VoIP, Lee and Prime also point to the question of the exclusive jurisdiction of the FCC over IP-enabled services as the fundamental legal question.[381] They stress that the FCC has expressed a desire to keep economic regulation of IP-enabled services to a minimum; nevertheless, it recognized that some matters of public policy were of sufficient importance to warrant regulation (e.g. emergency services and Universal Service contributions).[382] The authors conclude that IP-enabled services highlight the deficiency of the existing legislation to deal with them; the problems of jurisdiction, interconnection and universal service are highly likely to require further legislative action by the Congress.[383] Leisinger also strongly criticises the regulation of VoIP under the *Telecommunications Act* 1996

[375] Ibidem, p. 598.

[376] Ibidem, p. 599.

[377] WC Docket No. 03-211, 19 FCC Rcd 22404 (2004).

[378] Ibidem.

[379] The developments can be tracked on http://www.fcc.gov/voip/ , 6th March 2011.

[380] See e.g. 2006, p. 601-3.

[381] Lee, K.; Prime, J. in: Walden, I.; Angel, J., 2005, p. 584.

[382] Ibidem, p. 585.

[383] Ibidem, p. 586.

scheme: whereas the distinction between information and telecommunications services may have seemed manageable in 1996, at the time the Congress did not anticipate VoIP telephony as a technology that would not readily fit into the existing classification scheme.[384]

An analysis of US federal states' regulatory classification of VoIP reveals three main types of approaches: the 'functional', the 'technical' and the 'layered' approach.[385] The functional approach, which classifies the service based on its function according to certain 'salient features',[386] can also be found in the Stevens Report and is closely associated with the 'legal' approach, i.e. the straightforward application of definitions already contained in the statute. The main difference seems to be whether the criteria are set by the legislator or a regulatory body. The state of Florida, for example, embraced the functional approach, but at the same time warned that the Stevens Report introduced an artificial distinction between phone-to-phone and computer-to-computer VoIP based on the location where packetizing occurs, i.e. computer or phone. Cannon criticises the latter observation: according to him, all approaches are artificial, because they are the implementation of policy and not the policy itself,[387] suggesting that the regulators rely on statutory definitions instead of creating an appropriate policy for VoIP. The US National Association of Regulatory Utility Commissioners (NARUC) also generally adopted the functional approach and rejected the 'technical' approach that would be based on a single technical characteristic, such as the use of IP protocol. However, one can note that NARUC has added the criterion of market power of the provider to the 'salient features' criteria.[388] Florida, on the other hand, is an example of the so-called 'technical' or 'under-the-hood' approach: according to the Florida Public Utility Commission, it was in the public interest to keep the provision of VoIP free of unnecessary regulation, regardless of the provider.[389] A particular approach that is also based on the technical issues is the 'layered' approach.[390] This approach is based on the

[384] Leisinger, A. L., 2006.

[385] See Cannon, R., 2006.

[386] Quoting Commissioner Stan Wise. Ibidem, p. 486.

[387] Ibidem, p. 488.

[388] Ibidem, p. 488-9.

[389] Fla. Stat. Ann. §364.01(3) (West Supp. 2005). See also ibidem, p. 498.

[390] Ibidem, p. 499.

layering of technical communications protocols from the physical layer, over the logical or commuter layers and the application layer, to the content layer.[391] In this respect, the approach that was adopted in the states of Colorado and Guam[392] is not dissimilar to the initial idea of the *Computer Inquiry Rulings* and the *Telecommunications Act* of 1996.

From the market point of view, one can easily question the usefulness of the approaches based on technological features, and declare the functional approach to be superior. However, even Cannon's critique as to the functional approach seems legitimate: in the absence of a clear reference to policy objectives, there is no point deciding upon the superiority of the 'functional', the 'technical' or the 'layered' model,[393] as each of them refers back to the (outdated) statutory definition. One should therefore conclude that, like the EU law, the US law evolves around its own distinct concepts, regardless of technological and market developments that have no direct access to the legal system.

4.2 Voice telephony as an internal concept of the law

Regardless of greater or lesser flexibility and discretion exercised by different European regulators, EU regulatory attention as to VoIP kept evolving around the legal definition of public voice telephony contained in the legal framework. Moreover, Rawson's fully valid argument that regulatory approaches vary according to the level of development and history of competition for voice service provision in a particular country[394] does not fully explain the divergence between the EU and the US legal image of VoIP described above. The two jurisdictions' approaches confirm that autopoietic origins of legal concepts play a vital role in their evolution, calling for further systems theory analysis.

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[391] Ibidem.

[392] Ibidem, p. 500-1.

[393] Ibidem, p. 480-2.

[394] Rawson, S., 2005, p. 487.

A reasonable further step in exploring autopoietic legal images of telephony would be to look at the classification of services in international law that is generally more stable and not subject to day-to-day pressures for re-interpretation or changes from industry groups. In such a system, the autopoietic character of law becomes clearer: under the World Trade Organisation (WTO) international services liberalisation regime, VoIP is not explicitly mentioned in the 'Services Sectoral Classification List'.[395] Under the title 'Telecommunications', the list provides for the definitions of 'basic' and 'value-added' telecommunications. Basic telecommunications among others include 'voice telephone services' and 'packet-switched data transmission services'. Despite seemingly technology-neutral voice telephony definition,[396] one cannot wholly exclude the classification of at least certain types of VoIP as 'packet-switched data transmission services' or, alternatively, 'code and protocol conversion' as a type of value-added telecommunications. It should be borne in mind that VoIP means packet-switched transmission and that it includes code and protocol conversion when interconnecting to the PSTN. The issue may be important, because value-added services were liberalised under the GATS 'Telecommunications Annex', whereas basic telecommunications services were only subject to further liberalisation commitments under the Fourth Protocol.[397] Despite this potential for disputes, the regime has remained intact since its adoption and there seem to be no significant pressures for its change or a specific interpretation. Accordingly, two observations can be made. First, legal regimes have their own autonomous existence and do not require day-to-day justification in their economic and technological environments. Second, as VoIP has been a worldwide success in the recent years, it would be difficult to draw direct links between potential regulatory barriers not clearly dismantled by the international liberalisation regime, and VoIP investment decisions.[398]

Going back to the more dynamic communications law systems of the EU and the US, a general observation can be made that, despite similar technological and business

[395] 'Services Sectoral Classification List' (1991) Available at www.wto.org/english/tratop_e/serv_e/mtn_gns_w_120_e.doc, 30th March 2011.

[396] Nihoul, P.L.G. in: Geradin, D., Luff, D., 2004, p. 370.

[397] See Walden, I. in: Walden, I., 2005, p. 491-3.

[398] Fast pace development of VoIP competition in China despite state regulatory limits may serve as an example. DeWoskin, K. J., 2001.

solutions and a similar level of development, there are still important differences in the legal perception of VoIP, which can largely be attributed to the relevant legal framework influence on the regulatory debates. Accordingly, it is not difficult to agree with Michalis's warning[399] as to the arbitrary categorisation of services according to the existing legal frameworks. However, one can observe that regulatory documents on both sides of the Atlantic reflect the major shift from VoIP as an ancillary function of the PC, to the full substitute for the traditional fixed line telephone. The adoption of the functional approach yielded similar results in both regulatory frameworks: the FCC's position as to AT&T's backbone use of VoIP can be compared to FICORA's opinion on this type of services. Moreover, the early European Commission position as to VoIP from 1998 takes an approach similar to the FCC 'Stevens Report' from the same year; both documents are trying to draw a line between computer-based VoIP services and traditional circuit-switched fixed telephony-like services. Furthermore, both documents are based on the regulatory frameworks governing traditional telephony that include criteria such as the use of E.164 numbering plans. However, one should not miss the point by simply concluding that the documents reflect a similar reaction to VoIP due to similar commercial and social changes brought by VoIP. It may be more accurate to say that they are both based on relatively rigid definitions of the relevant regulatory frameworks together with their specific issues such as federal jurisdiction in the US. In this respect, voice telephony in general can be understood as being *over-legalised*:[400] VoIP has from its very beginning, already as a computer application, faced the potential sanctions of the legal regulatory system that was initially referring to POTS, whereas the law, due to the existence of its own voice telephony concepts,

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[399] Michalis, M. 'Regulation of Internet Telephony in the United States and the European Union' (2004) 6 *CTLR* p.152.

[400] Over-legalization stands in the middle of the Teubner's 'regulatory trilemma', which explains regulatory failures as a relationship between the law and the environment. Teubner, G.-ed. *Dilemmas of Law in the Welfare State* (Gruyter New York Berlin 1988), p. 311.According to the trilemma, there are three ways legal regulation can fail:

- the regulated system reacts by not reacting, i.e. the law creates no change in behaviour outside its own operations. For example, market liberalisation legislation may be enacted, but the regulator does not act and the incumbent operator does not respect it;
- over-legalization of society, i.e. the law influences the regulated system so strongly that self-reproduction of the latter is endangered. Fulfilling too many formalities in order to launch a VoIP service may serve as an example.
- over-socialization of law, i.e. the law is captured by politics or the regulated subsystem, say economy, and is 'politicized' or 'economized'.

required no justification for addressing thoroughly any new type of applied voice transmission technology.

In order to properly understand the evolution of telecommunications law, one should further distinguish between phylogenetic and ontogenetic developments. An additional crucial difference between the EU and the US is that, during the years 1998 and 2002, the EU regulatory framework had undergone a key change by means of the introduction of a new concept of 'publicly available telephone services' (PATS) that is based more on a functional than a technical approach. No 'higher meaning' should be attached to this change, however: PATS concept does not necessarily guarantee a lighter regulatory touch as suggested by Dick,[401] and may in fact prevent providers of functionally PSTN-like VoIP services from permanently escaping regulation, which has been demonstrated by the evolution of Ofcom's policy on VoIP, particularly with a view to emergency access concerns.[402] Accordingly, compared to US law, EU law has seen an important phylogenetic evolution in the legal description of telephony that moves towards greater technological neutrality. In this respect, the complexity of the environment (i.e. convergent VoIP solutions compared to traditional voice telecommunications) and the relative flexibility of the legal system were the key driving forces behind this evolution.

This confirms the autopoietic nature of laws but adds two additional points. First, changes in law can be, by means of structural couplings, triggered by changes in its environment. Second, these changes can be a response to the increased complexity of the environment, which requires further legal observations of the environment and the legal system itself. In order to be able to handle these observations, the law must become more 'proceduralized'.

[401] Dick, K., *2004,* p. 160.
[402] See above fn. 327.

4.3 Proceduralization and reflexivity of VoIP regulation

The said phylogenetic change in terms of the voice telephony definition that the EU law had undergone in 2002 has resulted in less interpretative and more discretionary regulatory responses, consider, for example, Ofcom's interim policy for emergency calls: because some new services might not be able to offer the same degree of reliability for emergency calls as traditional fixed voice services (authentic and reliable provision of location information, high probability of call set-up, and generally high level of reliability),[403] it was better that these services were able to provide less reliable access to 999, rather than preventing them from offering any access at all.

It is submitted that this change is about the legal system's internal argumentation, as the result of regulatory decision-making on legal concepts is ultimately always reduced to the code legal / illegal. However, when it comes to coupling with communications from other social systems, say economic substitution or scientific characteristics of voice services as to emergency calls, this change can be described as 'proceduralization'.

Indeed, interpretation and discretion can be differentiated from the legal theoretical point of view, but this differentiation happens at the level of second-order observations:[404] according to Luhmann, whatever the internal operation of the law to justify it, legal decision-making is always the creation of new texts with the help of older texts.[405] According to systems theory, it is difficult to construct a qualitative

[403] *New Voice Services: A consultation and interim guidance* (Ofcom, September 2004), p. 26.

[404] Goodrich notes the difference in legal discourse between the traditions of exegesis and rhetoric. Goodrich, P., 1987, p. 3.While the former claims to passively and philologically recover the true meaning and order of the legal texts, the latter sees the law in a more pragmatic way, as a discourse in a certain socio-linguistic dimension. Goodrich, P., 1987, p. 5-6. The interpretation can more easily be associated with exegesis, while it is not incompatible with flexible rhetorical and contextualised arguments either.

[405] See Luhmann, N., 2004, p. 305 et seq. Of course, the broad discretion of regulators can also be viewed as political decision-making, especially if regulators as public bodies have a more obvious mandate to act in a purpose-specific manner in order to achieve a certain goal. Despite this political dimension, one should bear in mind that discretionary powers are granted by the legal system, are perceived by the legal system as its operations, and are communicated in the legal binary code. Every discretionary decision must have legal grounds, whereby these grounds vary in different jurisdictions. Whereas statutory and common law requirements for passing administrative decisions in the UK are very limited, there is a stricter administrative procedure in place in the US, or even more in European

difference between interpretation and discretion outside the legal understanding of the two. Even if one looks at interpretation from a purely exegetic point of view, it is still the creation of a new text with older texts, namely the expansion of the basic text, with the original text serving merely as a reference.[406]

Looking at practical examples of regulatory decision-making over the legal status of VoIP,[407] the use of discretion is more likely to correspond to more intensive structural couplings. Namely, if the law is to justify discretionary operations both for the

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states with the continental tradition. Seerden, R., 2002. For an observer, individual communications can have both a legal and a political meaning. Luhmann, N., 2004, p. 377. They are also manifestations of the political nature of the system of public administration, seeking to fulfill the goals set by the political bodies. Luhmann, N., 2004, p, 374.

[406] Luhmann, N., 2004, p. 306. An interpretation in a specific legal proceeding can be seen as a one-off event, but can also be the driving force of the evolution of law. Luhmann, N., 2004, p. 260. Important changes in the legal understanding of certain situations can be achieved by means of interpretation and, as Luhmann argues, these have as a consequence additional interpretative legal texts. Luhmann, N., 2004, p. 306. For example, the ERG interpretation of the Commission-defined market for wholesale broadband access with a view to cable bitstream can be seen as a one-off event that, however, inevitably influenced the positions of various European NRAs. 'Bitstream Access, ERG Common Position of 2nd April 2004 and amended on 25th May 2005, ERG (03) 33rev2' (2005) Available at www.erg.eu.int/doc/whatsnew/erg_03_33rev2_bitstream_access_final_plus_cable_adopted.pdf, 3rd May 2008. Such interpretations should also be dealt with in the context of the phylogenetic evolution of the legal system. On the other hand, less far-reaching interpretations are possible that should not be confused with the evolution of the legal system in the strict sense. While some interpretations of ERG common positions may qualitatively affect regulatory practices, this can rarely be said for the results of a specific market analysis of an NRA. Normally, the latter will only be quoted again during the time of the validity of the measures or for the purposes of conducting a new analysis, but might not at all influence the general interpretation of the EU Framework.

[407] According to the Hall, Scott, and Hood classification of regulatory decision-making styles, interpretation primarily correspond to the Cartesian-bureaucratic decision-making pattern where the regulator decides in a pre-programmed manner, applying categorization principles to cases in order to handle them. Hall, C., Scott, C., Hood, C., 2000, p. 109. While the authors quote the examples of Ofcom price controls and numbering management, early responses to VoIP on both sides of the Atlantic that have been described in the chapter on VoIP, i.e. EU Commission Notice *Status of voice communications on Internet under Community law* and, in particular, pursuant to *Directive 90/388/EEC* and the US 'Stevens Report' may also be quoted. The two documents represent classic bureaucratic and exegetic responses to a new technology with a view to existing legislation. A similar decision-making style can be found in the interpretations of Skype services by the Finnish and the Italian NRA who primarily relied on statutory text in order to reach a relevant conclusion. On the other hand, discretion mainly corresponds to the ad hoc-chaotic and bargaining-diplomatic decision-making styles. Unlike in case of Cartesian-bureaucratic style where the objectives of decision-making are pre-set at the outset, say by statutory wording, bargaining-diplomatic style also enables the discovery of objectives through the process, whereas in adhocratic-chaotic style the latter is the primary means of setting objectives of regulation. Ibidem, p. 113. Hall, Scott, and Hood quote the inclusion of fair trading condition into the BT licence as the example of initially adhocratic-chaotic and later on bargaining-diplomatic decision-making style. Ibidem, p. 153 et seq and 173 et seq. The development of Ofcom policy towards VoIP also reveals a combination of the two styles: whereas the balance between end-user safety and incentives for VoIP service development resembles adhocratic-chaotic style, the work with the business community in order to develop the consumer information draft code resembles the bargaining-diplomatic style. In both cases, sufficient discretionary powers of the regulator are required in order to reach the desired result.

purposes of its internal rules on argumentation and for the sake of its self-promotion in the society, it must couple with the environment both at the procedural (e.g. by means of public consultations) and the substantive levels (e.g. by taking into account economic feasibility of regulation, as was the case with Ofcom's interim forbearance policy for emergency calls).[408] Whereas the early European Commission approach to VoIP from 1998 and the FCC 'Stevens Report' primarily relied on the exegetic discovery of the 'true meaning' of voice telephony definitions in the context of VoIP, later documents, such as the *Analysys Report*, the *ERG Common Position on VoIP* or Ofcom consultations on New Voice Services, reveal an approach reflexive of practical commercial implementation issues, such as the practical problems in 112 service provision or the end-users' ability to regularly migrate their VoIP lines (nomadicity).

The described proceduralization means that the law is attempting to be more 'socially adequate',[409] promoting itself in the environment by means of transparency and participation, which can also be seen as a trend in global administrative law.[410] However, one should be careful with the concept of 'social adequacy': it should refer to nothing more than the ability of the law to regulate its environment by regulating itself, i.e. by being 'reflexive'.[411] Within the law's internal processes this corresponds not only to discretion, but also to specific procedural elements, such as public consultations expressly prescribed by the NRF.[412] In the UK, the coupling with the economic system and the practical technology-implementation issues went further and introduced a co-regulatory solution, whereby a code of practice on consumer

[408] See previous subchapters above.

[409] Teubner, G., 1993, p. 67.

[410] Kingsbury, B., Krisch, N., Stewart, R. B., Wiener, J. B. 2005, p. 37-39.

[411] Teubner, G., 1993, p. 65-66.

[412]See Article 6 of the *Framework Directive* 'Consultation and transparency mechanism': " ... Member States shall ensure that where national regulatory authorities intend to take measures in accordance with this Directive or the Specific Directives which have a significant impact on the relevant market, they give interested parties the opportunity to comment on the draft measure within a reasonable period. ..." However, Luhmann warns that it may only be on the second-order level that such consultations contribute to greater transparency of decision-making. Luhmann, N., 2004, p. 355. Their 'actual' or 'social' effect is therefore not easily revealed.

information relevant for VoIP emergency calls[413] has been prepared together with the industry.[414]

The Commission's approach to VoIP classification reveals a similar trend toward greater proceduralization. When the law was first confronted with VoIP, its response was to seek how it fits into the scheme of the regulation of fixed telephony. However, the initial EU Commission Notice that was originally based on an interpretation of the directive text has itself been amended, bearing in mind the changes in the technological and commercial use of VoIP. The interpretation of the requirement that telephony takes place in 'real-time' has been amended not only with regard to technological limits that are implied in such a definition, but also with regard to end-user perception. The Commission noted that the 'real-time' condition could be satisfied when a voice service was generally regarded and used by a consumer as a substitute for voice services over a circuit-switched PSTN by virtue of its characteristics, in particular its level of quality and reliability.[415] By adding the 'perception' part to the originally technology-based definition, the Commission has opened the door to a higher degree of discretion for itself and the NRAs. From the inter-system interactions point of view, however, this reveals the shift from the coupling of the law with scientific descriptions of technologies, to the rather more complex coupling with end-user psychology or market substitution.

Following the 2002 law reform, the proceduralization trend can be observed particularly as to the 112 emergency calls service regulation, whereby open attitude by the Commission enabled pragmatic, industry- and market-oriented regulatory approaches by the Member States, notably the UK. Accordingly, the trend towards more general norms as identified by Scott as early as 1998 has continued.[416] The Commission suggested in its 2004 consultation that it was desirable that access to emergency services was made available from as wide a range of electronic communications services as possible,[417] not specifying how this should be achieved

[413] *New Voice Services: A consultation and interim guidance* (Ofcom, September 2004), p. 46-48.

[414] Compare Teubner who identifies self-regulation as one of the aspects of proceduralization. Teubner, G., 1993, p. 67.

[415] See above ,

[416] Scott, C., 1998, p. 244.

[417] *Commission Staff Working Document on the Treatment of Voice over Internet Protocol (VoIP) under the EU Regulatory Framework – An Information and Consultation Document* (Brussels, 14

at the national level. Absent such guidance, Ofcom in its consultation of 2004 exercised a high degree of discretion in respect of this issue. In order to avoid difficulties with the circular PATS definition, an interim PATS policy has been proposed: because some new services might not be able to offer the same degree of reliability for emergency calls as traditional fixed voice services (authentic and reliable provision of location information, high probability of call set-up, and generally high level of reliability), it was better that these services were able to provide less reliable emergency calls, rather than preventing them from offering any access at all, which was, reflexive of the anticipated service providers' economic decisions, intended to incentivise the development of reliable VoIP emergency call services and disincentivise the provision of VoIP services with no emergency access at all due to heavy regulatory burden.[418]

No further guidelines on VoIP have been issued at the EU level until the 2009 ERG *Common Position on VoIP*.[419] The latter document is, however, no longer concerned with the compatibility of VoIP interpretations with the directives, but rather sets clear rules as to regulatory actions with regard to VoIP: legal definitions increasingly couple with ERG's own policy agenda and the findings of its expert teams. The issues such as numbering and nomadicity[420] are addressed without any specific guidelines in the directives. Unlike in the specific UK case, largely determined by the UK de-regulatory legal tradition, however, this 'proceduralization' did not lead to pan-European co-regulation or even self-regulation but instead ended up coupling with legislative changes to the Framework.[421] Whereas the ERG's activism in this case is largely linked to its institutional position discussed in the previous chapter, it has been both enabled and limited by the 2002 PATS definition that is more service-

June 2004), p. 13.

[418] *New Voice Services: A consultation and interim guidance* (Ofcom, September 2004), p. 26, 29.

[419] 'ERG common position on VoIP ERG (07) 56rev2' (2007) Available at www.erg.eu.int/doc/publications/erg_07_56rev2_cp_voip_final.pdf, 31st January 2009.

[420] "For non-nomadic VoIP emergency calls, all providers should route the emergency call to the emergency response centre responsible to serve the area of the VoIP user […] The main issue related to location information with VoIP is nomadism. Since address information is the key element for rescue, the ERG recommends that all providers guarantee the availability of information that alert the PSAP when subscriber's address is not trustable, as it is in the case of mobile and nomadic service. In addition consumers should be properly informed of any limitation in providing accurate caller location information." 'ERG Common Position on VoIP ERG (07) 56rev' (2007) Available at www.erg.eu.int/doc/publications/erg_07_56rev2_cp_voip_final.pdf, 31st January 2009.

[421] See Article 26(5) of the 2009 *Universal Service Directive.*

and less technology-oriented than the definition of voice telephony under the 90/3888 competition[422] and further liberalisation directives.

4.4 A 'neutral' attitude towards technology

The principle of technological neutrality in legal regulation as a general legal attitude towards information and communications technologies has been thoroughly studied by Reed, who reveals that technology neutrality is a complex concept and that different aspects of the concept need to be addressed for different legislative purposes.[423] According to him, three main legislative techniques of achieving technological neutrality should be distinguished:

- technological indifference: the law is applied in the same way, regardless of the technology used to achieve the result, but this is not possible where technology fundamentally changes the nature of the behaviour;
- implementation neutrality: the law is specific to a certain technology, but is framed in such a way that it does not favour one or more implementations of that technology over others; and
- potential neutrality: a particular attribute of a technology or method of its use is essential to achieve the desired legal result, however, this legal requirement is drafted in such a way that non-compliant implementations can be modified to become compliant.[424]

Addressing the idea of technological neutrality specifically in the EU regulatory framework, Sinclair criticised the regulatory distinction between services associated with communications infrastructure to whom the framework applies, and services provided over the internet (for example, in the field of e-commerce).[425] As the internet increasingly becomes the central communications infrastructure, he argues

[422] *COMMISSION DIRECTIVE of 28 June 1990 on competition in the markets for telecommunications services (90/388/EEC)*.

[423] Reed, C., 2007.

[424] Ibidem.

[425] Sinclair, M., 2000, p. 12.

that the regulation of associated services may inevitably have to cover such internet services too if one is to achieve a coherent and convergent regulatory framework.[426] Whereas the author fails to provide any specific explanation why such a convergence of content and conveyance regulation should take place, his approach could be used to raise an important point: one can desire to regulate various related services by means of neutral law but the concept of technological neutrality itself being part of the legal system offers no guarantees as to its reach in the changing environment. Therefore, Reed's techniques described above and the attempts of the EU legal framework to become more technology-neutral should be critically evaluated by means of systems theory.

The 1998 *Commission Convergence Green Paper* already mentioned the idea of making regulation more technology-neutral.[427] This idea was substantiated in a vague provision of the 2002 *Framework Directive* stating that Member States were to ensure that in carrying out the regulatory tasks specified in the relevant directives, particularly those designed to ensure effective competition, NRAs would utmost account of the desirability of making regulations technologically neutral.[428] This provision is obviously insufficient to generally prevent the mentioning of technology in regulatory rules. For example, in 2008 several Member State on the wholesale market still distinguished between termination to subscribers of TDM and IP-based public telephony, whereby only the first was regulated.[429]

Furthermore, the 2002 EU Framework does not totally avoid using a more detailed description of technologies. Despite abolishing the troublesome[430] voice telephony definition of the 90/3888 competition directive and further liberalisation directives, and replacing it with a PATS definition, which is more service- and less technology-

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[426] Ibidem.

[427] *Green paper on the convergence of the telecommunications, media and information technology sectors, and the implications for regulation, COM(97)623, IV.2.1.*: "Current definitions delimit the boundaries between different sectoral regulation and different regulators. Regulation is linked to the definitions of activities. Although regulation can be 'technology neutral', as in the broadcasting sector (and increasingly in the telecoms sector) it may be linked to the technology used to offer services, as well as between areas which are regulated and those which are largely free from detailed rules."

[428] Article 8(1) of the *Framework Directive*. The provision is further explained in the recitals of the same directive.

[429] Data gathered by the Slovenian regulator APEK in a survey addressed to ERG members.

[430] See above p. 76 et seq.

oriented, the Framework's starting point for the legal description of a regulated service is still the traditional circuit-switched telephony and its features, such as the national numbering plan. These features are, however, difficult to abolish altogether, as it is impossible to clearly distinguish between the technology and its commercial application. By being present in the market for decades, circuit-switched telephony has largely determined the tastes of consumers. These features are therefore not only the technological features of POTS, but also the functional features of 'telephony' in the eyes of the consumers interested in the service. These issues raise a general question: can the law really decide to allow only technology-neutral operations?

From systems theory perspective, technological neutrality is an internal operation of the law: being neutral towards technology means that the law does not take its own image of technology, whatever this image may be, as its own distinguishing factor in deciding upon legal / illegal. Accordingly, any 'version' of technological neutrality[431] will lead to cyclical linkage within the law and is essentially autopoietic.

The different versions of neutrality[432] are different ways the law can internally construct reality in order to satisfy its own criteria of 'being neutral'. However, there are no guarantees that other social systems, such as economy, politics or science will perceive this construction as 'neutral'. For example, if the law refers to the transport of voice in real-time, as did the *Directive 90/388/EEC*, the regulator is likely to rely on scientific experts in order to obtain a binary legal answer whether a certain technology constitutes a real-time communication. However, an economic expert could justifiably doubt the neutrality of such an exercise, because he could claim that the market implications of the service, i.e. e. its substitution from the perspective of end-users should be tested instead. The best the law can do is to use its internal argumentation in order to justify its approach.

This adds to Bach and Sallet's position that any approach, including the 'functional' one, implies a political preference: [433] any legislative text is created by the political system, but once passed, it becomes part of autopoietic law. Therefore, no hidden

[431] See Reed's definition above.

[432] See ibidem.

[433] See Bach, D., Sallet, J., 2007, p. 2.

political agenda needs to be sought: legal descriptions of applied technologies, such as telephony, and legal principles, such as technological neutrality, are all autopoietic legal structures, giving no guarantees of satisfying external criteria of what should or should not be regulated.

This becomes clear when trying to put the 'function'[434] of the technology against the background of specific technological features, say circuit-switching. Be it a specific function declared by the legislation ('direct transport and switching of speech in real-time"[435]) or interpretation ("a voice service is generally regarded and used by consumer as a substitute for voice services over a circuit-switched PSTN, by virtue of its characteristics, in particular its level of quality and reliability"[436]), there is nothing that guarantees the relevance of this 'function' outside the legal system. This inevitably leads to frustrations in the environment, making the law look like nothing more than a bureaucratic instrument of political interests. As Ofcom's response to VoIP and emergency services shows,[437] huge self-promotional efforts can be made on the part of the law to overcome such reactions. However, these efforts cannot overcome the autopoiesis of the legal concepts as such.

Of course, attempts can be made to regulate in a way not compatible with the current law in order to address the service's 'function'. This can be done in the form of a political proposal. For example, the *ERG Common Position on VoIP* explicitly proposed the removal of the access to emergency service requirement in the PATS definition to eliminate the 'illogical' circularity that enabled regulatory arbitrage by service providers and gave end-users unequal rights.[438] Another option is to make calls to regulation that could be legally challenged in the courts as breaching the statutes: the same ERG document states that all providers of fixed telephony services

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[434] See the US 'functional approach' above p. 91 et seq,

[435] *COMMISSION DIRECTIVE of 28 June 1990 on competition in the markets for telecommunications services (90/388/EEC)*.

[436] *Communication from the Commission - Status of voice on the Internet under Community law, and in particular, under Directive 90/388/EEC - Supplement to the Communication by the Commission to the European Parliament and the Council on the status and implementation of Directive 90/388/EEC on competition in the markets for telecommunications services (2000/C 369/03).*

[437] See Ofcom's interim VoIP policy above.

[438] ERG Common position on VoIP ERG (07) 56rev2' (2007) Available at www.erg.eu.int/doc/publications/erg_07_56rev2_cp_voip_final.pdf, 31st January 2009.

should be authorised to permit nomadic use by their subscribers of geographic numbers,[439] even though this may contravene national laws on the use of geographic numbers. However, this type of regulatory activism bears the risk of being annulled by the courts, which ultimately points to the legal / illegal formula,[440] and not to the utilitarian or other purpose-specific intentions of the regulators.

A more sophisticated version of the functional approach is the criterion of economic substitutability. If the latter is adopted, as is the case with EU Significant Market Power (SMP) operators' obligations,[441] the law relies on coupling with the economic system in order to find an answer as to legal / illegal. Instead of interpreting the 'function' described by the law according to their own discretion and imagination, the regulators must draw their conclusions from the market analysis they are obliged to conduct. To be sure, this approach is still legal and not economic, which is obvious from the 2003 market definition by the European Commission describing four markets as "publicly available […] telephone services provided at a fixed location […]".[442] The Commission essentially took the legal definition of PATS in order to describe a market characterised in economic terms by supply- and demand-side substitution, showing that, no matter what the result of the analysis may be, the starting point will always be the law.

In this respect, it becomes even more difficult to draw lines between 'technological indifference', 'implementation neutrality' and 'potential neutrality' as different types of technological neutrality suggested by Reed.[443] The idea of certain technology or technologies had at a certain point of time been born with the intent of regulating a certain technology-based industry. Therefore, legal texts will inevitably carry the traces of specific technologies that existed at the time of their drafting.[444] While other technologies not being part of this idea may stand the chance of obtaining a certain

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[439] 'Conclusions of the Task Force, ERG (07) 56rev2' (2007) Available at http://www.erg.eu.int/doc/publications/erg_07_56rev2_cp_voip_final.pdf, 31st January 2009.

[440] See Nobles, R., Schiff, D. in: Luhmann, N., 2004, p. 30-31.

[441] See the chapter on access and interconnection below.

[442] See Markets 3-6 of the 2003 *Commission Recommendation on Relevant Markets*.

[443] Reed, C., 2007.

[444] On neutrality of technology and technological determinism in general, see for example Chandler, D., 2008..

legal status, this chance will always depend on the legal image of the previous technology. PATS is essentially a legal description of traditional telephony[445] without a reference to circuit-switching (a feature not obvious to an end-user). One can ask whether this means that the law is *indifferent* to switching technology, or that operators can *implement* public telephony by any type of technology (TDM or IP), or that VoIP can *potentially* be used to replicate traditional telephony. If the law does not really mention technology, the description of the latter does not become part of the legal code, which makes the law impervious to outside change. For example, if the law refers to the markets for electronic communications networks and services, its entire provisions could only become inapplicable to the environment if electronics was no longer used in commercial communications. However, while descriptions based on competition law and relying on the markets could as such amount to technological indifference, they can only remain indifferent as long as they remain fully abstract. As soon as they are used to regulate specific situations, a legal description of the relevant market must be created, pointing at a specific applied technology or technologies. Moreover, if *ex ante* regulation is in question, overly abstract definitions make no sense, as the law cannot rely on controlling behaviour in advance, i.e. coupling with the commercial transactions, without even properly defining it.

It would be wrong, however, to use the above debate in order to discredit the relevance of the principle of technological neutrality. The debate merely points at the internal legal, i.e. autopoietic nature of this principle. There are two key implications of the principle of technological neutrality in the law that make it relevant for the law's evolution.

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[445] See Article 2(c) of the 2002 *Universal Service Directive*: "publicly available telephone service' means a service available to the public for originating and receiving national and international calls and access to emergency services through a number or numbers in a national or international telephone numbering plan, and in addition may, where relevant, include one or more of the following services: the provision of operator assistance, directory enquiry services, directories, provision of public pay phones, provision of service under special terms, provision of special facilities for customers with disabilities or with special social needs and/or the provision of non-geographic services". The preference for E.164 numbers or public payphones clearly stem from the PSTN / TDM environment.

First, the principle of technological neutrality is another form of the general legal principles of equality and non-discrimination:[446] the postulate of technological neutrality requires the equal treatment of various networks and services (and consequently their owners), where the underlying technology cannot be treated as a legitimate discriminating factor. Luhmann sees 'equality' as the most abstract preference of the legal system, the final criterion for deciding upon legal and illegal,[447] essential for 'justice', the law's formula for contingency, which generally serves as a correction to the use of past legal practice.[448] This can be observed on the example of UK post-privatization public service law that has largely evolved around the concept of equal citizens' rights.[449] Whereas equality is accepted by lawyers as self-evident, that is as autopoietic, unequal treatment requires justification, which creates a rule / exception scheme,[450] grouping together phenomena based on argumentation, as was the case with the Italian and Finnish decisions on the status of Skype.[451] In this sense, it is submitted that technological neutrality is primarily the re-writing of the autopoietic 'equality', and therefore a genuine invention of the legal system that cannot be constructed on the basis of other social systems. Namely, politics cannot guarantee the specific application of its ideas to future technologies without being ready to change legislation. While economy could theoretically exercise complex welfare measurements based on different scenarios of the treatment of VoIP, it would sooner or later run into the question of weighing individual and general social welfare, requiring a legal answer. The legal requirement that particular technologies must not be discriminated against is therefore the starting point in reducing the complexity the regulators are facing when dealing with new applied technologies. Based on the formula equal / unequal, new technologies are being legally classified, and new criteria are being developed around the evolving definitions of telephony. Accordingly, communications law could build on established legal principles of equality and non-discrimination in order to tackle new technologies. The use by communications law of general competition law principles

[446] Some commentators have seen technological neutrality as a non-discriminatory rule protecting technologies instead of legal subjects. Thompson, M., 2009.

[447] Luhmann, N, 2004, p. 131-132.

[448] Ibidem, 2004, p. 228.

[449] Prosser, T., 2000, p. 63-64.

[450] Luhmann, N, 2004, p. 132-133.

[451] See above 4.1.

in order to address new technology-related market competition problems will be addressed in the next chapter.[452]

Second, as Luhmann points out, the scheme equal / unequal creates a demand for criteria, without determining which criteria to use.[453] In EU law, the gap created by the request not to discriminate between technologies has largely been filled by means of coupling with the economic market analysis. Whereas the Commission in its 2000 *Supplement to its VoIP Communication* was still somewhat unclear if a substitute "by virtue of its characteristics, in particular its level of quality and reliability"[454] is really an economic substitute, the 2003 *Recommendation on Relevant Markets* had clearly constructed "publicly available […] telephone services provided at a fixed location […]" as a market-related concept.[455] Accordingly, the law has created its internal image of equality among voice technologies on the basis of its perception of their economic substitution.

However, while the principle of technological neutrality acts as a driver for the evolution of the law based on the inclusion or exclusion of new technologies into the equal / unequal scheme, one should again be reminded that it is an autopoietic principle that only relates to the existing legal concepts describing the environment. Against this background, the example of net neutrality shows how difficult it may be for brand-new issues raised by technology to enter the law, despite its internal striving for openness towards new technological and business environment.

4.5 Net neutrality as juridification of internet freedoms

Whereas the rules on end-user telephony services and wholesale network access have initially developed before the overall migration of telecommunications to IP

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[452] For a historical perspective on the latter issue, see discussion by Larouche in Larouche, P., 2000, p. 321 et seq.

[453] Luhmann, N, 2004, p. 133.

[454] *Communication from the Commission – Status of voice on the Internet under Community law, and in particular, under Directive 90/388/EEC – Supplement to the Communication by the Commission to the European Parliament and the Council on the status and implementation of Directive 90/388/EEC on competition in the markets for telecommunications services (2000/C 369/03*).

[455] See Markets 3-6 of the *2003 Commission Recommendation on Relevant Markets*.

technologies, the concept of net neutrality is specifically tailored to an NGN environment where independent third-party IP-based applications, often incorporating voice and video, play a vital role in end-user demand.

Net neutrality is a policy principle regarding access for content providers to the internet end-user, and potential discrimination in that access where the end-user's ISP or another ISP blocks that access in part or whole, often subject to special fees.[456] Discrimination can take form of charging more for better QoS or, adversely, degrading the service for those end-users who attempt to make the use of certain applications.[457] The idea of 'net neutrality' is seen as means of avoiding these practices, regulating equal access by applications and services at the level of the internet service provision. This means that, essentially, the law attempts to regulate access to broadband networks and services provided by broadband internet service providers, which has previously been agreed upon in the open market.

This idea has been incorporated into the US *Internet Freedom Preservation Bill* of 2008 proposed *inter alia* to "preserve and promote the open and interconnected nature of broadband networks that enable consumers to reach and service providers to offer lawful content, applications and services of their choosing, using their selection of devices, as long as such devices do not harm the network; and to safeguard the open marketplace of ideas on the internet by adopting and enforcing baseline protections to guard against unreasonable discriminatory favouritism or degradation of content by network operators based upon its source, ownership or destination on the Internet."[458] The Bill also provided for broad assessment powers of the FCC as to the market situation and the benefits of users in relation to access to an application.

The FCC has initially indicated that open internet is an issue and, simultaneously with announcing the phasing out of wholesale DSL obligation, adopted a policy statement that outlined four principles of encouraging broadband deployment and

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[456] See Marsden, C. T., 2010, p. 29.

[457] See ibidem.

[458] See Sec. 12 of the proposed US 'Internet Freedom Preservation Bill' (2008) Available at www.opencongress.org/bill/110-h5353/text, 2nd January 2009.

preserving and promoting the open and interconnected nature of public internet.[459] According to the statement, consumers are entitled to access the lawful internet content of their choice; they are further entitled to run applications and services of their choice, subject to the needs of law enforcement; and to connect their choice of legal devices that do not harm the network. In addition, they are entitled to competition among network providers, application and service providers, and content providers.[460] Although the FCC for a long time did not adopt rules in this regard, it announced it would incorporate these principles into its ongoing policy-making activities.[461] However, FCC policy has become more explicit following President Obama's election: in October 2009 the FCC issued the *Notice of proposed rule-making identifying the need to transfer the principles of the policy statement into binding 'net neutrality' rules*.[462] The US Court of Appeals has, nevertheless, recently ruled that the FCC has no authority to enact the said net neutrality principles,[463] significantly curtailing FCC discretionary powers.

In the EU net neutrality has in 2009 found its way into legislation as a rule protecting end-users and their right to choose content and to enjoy appropriate QoS and not, as one might expect, a rule regulating wholesale access rights to broadband networks.[464] The provisions that have been added are vague, however, and left to the discretion of

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[459] *FCC Policy Statement* (FCC, August 2005).

[460] Ibidem.

[461] Ibidem.

[462] The Commission determined that consumers are entitled to: "access the lawful Internet content of their choice [;]… run applications and use services of their choice, subject to the needs of law enforcement [;]… connect their choice of legal devices that do not harm the network [; and]…. competition among network providers, application and service providers, and content providers. All of these principles are subject to providers' need to reasonably manage their networks". 'Notice of proposed rulemaking' (2009) Available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-09-30 th93A1.pdf, 30th March 2011

[463] "It is true that 'Congress gave the [Commission] broad and adaptable jurisdiction so that it can keep pace with rapidly evolving communications technologies.' Resp't's Br. 19. It is also true that '[t]he Internet is such a technology,' id., indeed, 'arguably the most important innovation in communications in a generation,' id. at 30. Yet notwithstanding the 'difficult regulatory problem of rapid technological change' posed by the communications industry, 'the allowance of wide latitude in the exercise of delegated powers is not the equivalent of untrammeled freedom to regulate activities over which the statute fails to confer… Commission authority.' NARUC II, 533 F.2d at 618 (internal quotation marks and footnote omitted). Because the Commission has failed to tie its assertion of ancillary authority over Comcast's Internet service to any 'statutorily mandated responsibility,' Am. Library, 406 F.3d at 692, we grant the petition for review and vacate the Order." *Comcast Corporation v. FCC, US Court of Appeals for the District of Columbia*, No. 08-129, 6th April 2010.

[464] Wholesale access remedies in the EU Framework are explained in the next chapter.

NRAs. Article 8 of the 2009 *Universal Service Directive* gives NRAs an additional task of "promoting the ability of end-users to access and distribute information or run applications and services of their choice." Furthermore, according to Article 22 (3) of the same Directive, "in order to prevent the degradation of service and the hindering or slowing down of traffic over networks, Member States shall ensure that national regulatory authorities are able to set minimum quality of service requirements on an undertaking or undertakings providing public communications networks."[465] Some NRAs, namely Swedish, French and UK, have already launched public inquiries into this matter,[466] and the Netherlands passed a law to this end.[467]

For the purposes of this research, net neutrality is seen as legal intervention intended to prevent or limit different treatment of IP traffic based on its type or origin.[468] Like technological neutrality, net neutrality is about equality and non-discrimination, i.e. about the equal/unequal scheme.[469] There is an important difference though: while the technological neutrality primarily sought to adapt the existing regulation to a changing technological landscape, net neutrality seeks to introduce legal regulation in order to require 'equality' on previously unregulated markets. While net neutrality originally stems from the early perception of the internet as a 'free' parallel zone,[470] whereby anything can be transmitted to anyone, it has become part of the public debate and the political agenda in a juridified form, as an idea of preventing discrimination among internet communications by means of legal intervention.[471]

From the evolution of law point of view, net neutrality is interesting for two reasons that shall be explored in this chapter. First, it shows how the equal/unequal scheme can be used in order to tackle new problems society is facing, demonstrating the

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[465] See Articles 8 and 22 (3) of the *Directive 2002/22/EC of the European Parliament and of the Council of 7 March 2002 on universal service and users' rights relating to electronic communications networks and services (Universal Service Directive) as amended by Directive 2009/136/EC* (unofficial consolidated version).

[466] See *Ofcom's* 'Traffic Management and 'net neutrality', A Discussion Document' (2010) Available at http://stakeholders.ofcom.org.uk/binaries/consultations/net-neutrality/summary/netneutrality.pdf, 30th March 2011.

[467] See http://www.bbc.co.uk/news/technology-13886440, viewed 22 October 2011.

[468] Compare less legal attempts to define it in Marsden, C. T., 2010, p. 1.

[469] Luhmann, N., 2004, p. 132.

[470] A phenomena that Reed identifies as the 'Cyberspace fallacy'. Reed, C., 2000, p. 1.

[471] See e.g. Marsden, C. T., 2010, p. 11.

law's ability to promote itself. Second, it also indicates how the existing autopoietic patterns of legal regulation can be deemed self-sufficient based on their supposedly flexible, overarching nature.

In the net neutrality context, based on the changes of the economic and technological environment resulting in incentives for service providers to differentiate traffic,[472] juridification has emerged as a solution to legally regulate for more freedom of certain providers to communicate with their intended users. Accordingly, contrary to general belief, juridification may not necessarily be linked to the 'bureaucratization' and curtailing of freedoms;[473] it is simply about dealing with an issue in the form of legal code.[474] This can be compared to Lessig's view that architecture (code) of the environment, like the law, may be seen as a regulator:[475] for example, natural scarcity of traditional (E.164) telephone numbers directly affects new entrants wishing to provide POTS-compatible VoIP services. Similarly, as technology is increasingly used to discriminate among sources or types of communications (packets),[476] the law may be required to enter as a countervailing regulating power. While this may challenge the traditional perception that public law intervention creates the risk for freedoms in the IP-based world,[477] it merely means that the proponents of net neutrality have used legal code to promote their views, whereas the law has

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[472] See Marsden quoting Riley and Scott: "In the early days of the Internet, non-discrimination was easy to uphold because it was not technologically feasible for service providers to inspect messages and evaluate their content in real time. But recently, electronics manufacturers have developed so-called DPI technology capable of tracking Internet communications in real time, monitoring the content, and deciding which messages or applications will get through the fastest." Marsden, C. T., 2010, p. 11.

[473] In his 1987 work, Teubner explicitly refers to juridification as 'ugly'. He links it with Jacoby's concept of 'bureaucratization of the world' and Habermas' theory on 'colonization of the life-world' and relates it to the modern 'regulatory law', which is structurally coupled with politics on one hand and the regulated social field on the other. Teubner, G., 1987b, p. 3-5.

[474] Seeing in juridification a political or ideological issue therefore misses the point. As Teubner points out, social autonomy is first and foremost a cognitive problem for the law. Teubner, G. in Teubner, G., Febbrajo, A., 1992, p. 612: "Irrespective of whether one wishes to liberate market forces through legal policy or prefers to tie them up in legal policy fetters, irrespective of whether one wishes to safeguard the autonomy of alternative movements by legal guarantees or else legally discipline them, social autonomy faces the lawyers with the cognitive problem of their regulatory object."

[475] Lessig, L., 1999, p. 86-88.

[476] Examples of today's prioritisation include Google's AdWords, Ebay on O2, Microsoft Windows & MSN. See http://www.ofcom.org.uk/media/speeches/2006/12/net_neutrality_111206.pdf, 3rd May 2009.

[477] The most extreme view about a parallel jurisdiction is identified by Reed as the 'Cyberspace fallacy'. Reed, C., 2000, p. 1.

promoted itself as a conflict-resolving mechanism by means of its 'self-evident' non-discrimination postulate.[478] Bearing in mind the US origin of the net neutrality concept, this should not come as a surprise: American forms of regulatory law, regulatory policy-making processes, and methods of enforcing regulatory rules are highly legalistic.[479]

In order to understand the shift towards the 'juridification of internet freedoms', one should recognise that, initially, the law was indeed more reluctant to regulate the IP world. In the EU, the ONP framework left IP-interconnection unregulated at the Community level and left the decision on potential regulation to the Member States. Annex II of the 1997 *Interconnection Directive*, which listed the types of operators subject to interconnection rights and obligations, did not expressly mention ISPs and IBPs operators, but allowed Member States to include them into this category by means of domestic law.[480] In the UK, for example, many ISPs obtained the right to interconnect to the fixed-line SMP operators by means of the Telecommunications Services Licence.[481] However, there was no general duty on ISPs to interconnect. At times, leaving the internet unregulated amounted to a clearer policy decision. For example, the 2002 *Framework Directive* expressly excluded internet naming and addressing (i.e. domain names and IP numbers) from the Community harmonising scope,[482] which left the existing regulation of this area by the *sui generis* quasi-international body ICANN intact.[483]

In the US there has been a traditional division between ‘basic’ and ‘enhanced’ services, which has left the latter largely unregulated.[484] This division is still embedded in the *Telecommunications Act* of 1996 as the division between

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[478] Luhmann, N., 2004, p. 132.

[479] Kagan, R. A., 2001, p. 182.

[480] See *Directive 97/33/EC*, Annex II, in the Appendix.

[481] See Walden, I., 2009, p. 406.

[482] Recital 20: “The provisions of this Directive do not establish any new areas of responsibility for the national regulatory authorities in the field of Internet naming and addressing.”

[483] See the Internet Corporation for Assigned Names and Numbers available at http://www.icann.org, 14th June 2009.

[484] Huber, P. W., Kellogg, M. K., Thorne, J., 1999, p. 1006-1008.

'telecommunications' and 'information' services.[485] The main provisions of the Act do not address the internet, which gives the latter the potential to remain outside of its scope.[486] In addition, the Act clearly states that its primary purpose is to reduce regulation and encourage "the rapid deployment of new telecommunications technologies."[487] Despite the absence of a general rule, internet services are most likely to be classified as (generally unregulated) 'enhanced / information' services.[488]

This forbearance from legal regulation has coupled with the views of both the internet users community and academics. For example, it was commonly thought that online operations need only concern themselves with complying with domestic laws in places where their business had a significant presence, for example by means of an office or other assets.[489] This phenomenon has been identified by Reed as the 'cyberspace fallacy',[490] suggesting that there is a delusion about a parallel free virtual world. Bearing in mind the development of the internet, this should not come as a surprise. Bowrey suggests that there are many internet cultures, made up from many different kinds of storytellers, all trying to maintain their own voice and identity.[491] Furthermore, as Lessig would put it, the Internet is already regulated by its architecture or *code,* i.e. software and hardware, the norms and the market. [492] In the same context, Teubner argues that the architecture of cyberspace would require new types of 'societal' constitutions, separated from state politics-centred constitutional systems.[493]

However, notwithstanding these views, the exchange of copyrighted works over the internet has never been subject to the regulatory forbearance principles. Already in 1996, some years before the exchange of files over the internet had taken off on a

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[485] Ibidem.

[486] Even in 2005, broadband transmission services were, as lower protocol services, given the status by the FCC of 'information services'. See *Wireline Broadband Internet Access Order*, FCC, August 2005.

[487] *Telecommunications Act* of 1996, Pub. L. 104-104, 110 Stat. 56.

[488] Ibidem, p. 1007.

[489] Bowrey, K., 2005, p. 9.

[490] Reed, C., 2000, p. 1.

[491] Bowrey, K., 2005, p. 15.

[492] Lessig, L., 1999, p. 87-89. See also Schiff Berman, P.-ed., 2007, p. 143 et seq.

mass scale,[494] based on international political consensus, the WIPO Copyrights Treaties specifically addressed interactive communication of copyrighted works to the public.[495] It should not come as a surprise that these specific tailor-made legal measures for the internet in the form of new treaties and implementing legislation[496] faced fierce opposition from advocates of internet freedoms. Braithwaite and Drahos, for example, have argued that the internet has evolved as a part of intellectual common and compare the use of 'gatekeeping' software with feudalism.[497]

When faced with the problem of internet traffic discrimination, the proponents of net neutrality have quickly recognised that legal code should be seen not only as a threat to liberty, but also as a tool to regulate for freedom of access to internet resources and services. This is the case when, as Lessig would put it, technology has been used as the key regulator,[498] controlling access to internet content and applications. With the ability of broadband service providers to discriminate against certain content and applications on a technological basis, the law can step in to prevent such use of technology. Of course, this requires the ambitions to regulate to be expressed in legal code. This has been largely done by the 'Save the Internet' movement. [499]

Intensive self-promotion of the law by means of juridification of ideas[500] is related to the US culture in which lawyers are normally hired even for tasks of political lobbying.[501] Consequently, ideas of mandated 'net-neutrality' were easily translated into the legal language of legislative bills. drafted in order to address this specific

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[494] Napster, the revolutionary peer-to-peer music files exchange service that paved the way for massive peer-to-peer file sharing, was only launched in 1999.

[495] *WIPO Copyright Treaty* (WCT), adopted in Geneva on December 20, 1996, Article 8: "[...] authors of literary and artistic works shall enjoy the exclusive right of authorizing any communication to the public of their works, by wire or wireless means, including the making available to the public of their works in such a way that members of the public may access these works from a place and at a time individually chosen by them." See also *WIPO Performances and Phonograms Treaty* (WPPT), adopted in Geneva on December 20, 1996, Articles 10 and 14, establishing an equivalent right for performers and producers of phonograms.

[496] See e.g. *US Digital Millennium Copyright Act* of 1998.

[497] Drahos, P., Braithwaite, J., 2002, p. 198.

[498] Lessig, L., 1999, p. 87-89.

[499] www.savetheinternet.com, 27th April 2009.

[500] See e.g. Lessig's criticism in Lessig, L., 2001, p. 3-5.

[501] See Luhmann, N., 2004, p. 376.

area of electronic communications activities.[502] Moreover, looking at Wu's arguments in favour of net neutrality, the idea can be easily linked to the main traditional tasks of telecommunications law: allocating rights and managing problems of discrimination.[503] While the first should eventually go away (due to technological developments undermining the problem of scarcity), the second seems unlikely to ever go away.[504] In this context, the requirement for a central anti-discrimination (legal) rule (encompassing its various aspects) could be a solution.[505]

US proponents of net neutrality have faced opposition in the form of de-regulatory ideas that oppose further juridification of wholesale DSL or cable access agreements. Their arguments are primarily economic: mandated access could deprive providers of alternative broadband platforms from their natural strategic partners and, by depriving them of the necessary resources, prevent them from building their own networks.[506] Moreover, there are more general arguments, such as the potential for 'network diversity' and 'product variety', that non-neutral IP networks could bring.[507] In addition, non-discrimination rules such as net-neutrality may entail costs for consumers, for producers and for the regulatory process.[508] No matter how hypothetical these arguments may be, they are part of the general political agenda opposing state interventions in the private sector. This is as also clear from the 'Hands off the Internet' blog that has been built to oppose net neutrality legislation.[509] Paradoxically, at 'savetheinternet.com' the interventionist and 'juridificational'

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[502] US legislative techniques focusing in detail on the specific area to be regulated are analysed by Kagan, R. A., 2001, p. 187-188

[503] Wu, T. 2004, p. 46.

[504] Ibidem.

[505] Ibidem.

[506] Yoo, C. S., 2004-2005, p. 65.

[507] Yoo, C. S., 2005, p. 77.

[508] See Shelanski, H. A., 2007, p. 102.

[509] "Hands Off The Internet is a nationwide coalition of Internet users, manufacturers and network operators united in the belief that the Net's phenomenal growth over the past decade will continue if government does not attempt an unwise effort to regulate a market that is otherwise working to give consumers the choices, freedom, prices and diverse experiences they desire in the new age of the Internet. To that end, Hands Off The Internet supports state and federal public policies that ensure the broadest possible range of choices for consumers and businesses using the Internet. [...] Hands Off The Internet believes that the best way to avoid burdensome and unnecessary regulation and mandates is by ensuring that market forces deliver the benefits that only fair competition can bring to the American consumer - maximum choice in supplier, content and technology." 'Hands off the Internet', available at www.handsoff.org/blog/about-us, 3rd May 2009.

approach has been used to defend the originally liberal architecture of the internet.[510] In this respect, a warning should be made as to the missing criteria for the equal/unequal scheme, as the latter could also be filled with the need to discriminate between those who provide connections and those who merely free ride with their content, simply in order to treat the equally in an equal and the unequally in an unequal way.[511]

In the EU the situation is rather different from that in the US, as during the relevant period the EU already possessed a universal system for imposing rights and obligations on operators in cases of anti-competitive behaviour.[512] According to the EU 2002 *Regulatory Framework*, net neutrality regulation could potentially be based on the Framework's technological neutrality and the ability of the Commission and NRAs to define product markets susceptible to *ex ante* regulation. The definition of single network markets for broadband data termination, for example, could potentially yield similar results. As in the case of voice termination on individual fixed or mobile networks,[513] each broadband ISP could be designated as dominant i.e. holding SMP and could be mandated to grant non-discriminatory access to its network for the purpose of access of certain applications or services. This option was expressly noted in a proposal for the review of the *Universal Service Directive* that referred to enabling users to have reasonable access to particular types of content or applications, and have access to information on their providers' traffic management policies that could eventually prevent such access.[514]

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[510] Compare e.g. Downes, L., 2009.

[511] See Luhmann relying on the famous Aristotelian rule. Luhmann, N., 2004, p. 132.

[512] See Article 16(2) of the 2002 *Framework Directive*: "Where a national regulatory authority is required under Articles 16, 17, 18 or 19 of Directive 2002/22/EC (Universal Service Directive), or Articles 7 or 8 of Directive 2002/19/EC (Access Directive) to determine whether to impose, maintain, amend or withdraw obligations on undertakings, it shall determine on the basis of its market analysis referred to in paragraph 1 of this Article whether a relevant market is effectively competitive."

[513] See Markets 3 and 7 of the 2007 *Recommendation on relevant markets*.

[514] See Recital 14 of the *Proposal for a Directive of the European Parliament and of the Council amending Directive 2002/22/EC on universal service and users' rights relating to electronic communications networks, Directive 2002/58/EC concerning the processing of personal data and the protection of privacy in the electronic communications sector and Regulation (EC) No 2006/2004 on consumer protection cooperation – Political agreement*: "…Given the increasing importance of electronic communications for consumers and businesses, users should be fully informed of […] the traffic management policies […] of the service and/or network provider with which they conclude the contract. […]. Where there is a lack of effective competition, the relevant national […] authorities should use the remedies available to them in Directive 2002/19/EC to ensure that users' access to particular types of content or applications is not unreasonably restricted".

Based on this supposed self-sufficiency of the EU regulatory system, the initial NRA response to net neutrality measures in Europe was not overly enthusiastic. Ed Richards of Ofcom, for example, stressed that activities of an operator without relevant market power should not be automatically construed as anti-competitive or necessarily regulated,[515] which is consistent with the EU 2002 Framework approach to regulating communications markets. Looking at the latter, a general European response could be that attempts of ISPs to give preference to certain types of content should be sufficiently controlled by the high degree of competition in the ISP market.[516]

When it ultimately came to the juridification of net neutrality in the EU, separate measures were proposed in the context of end-user rights instead of the market analysis scheme. The initial proposal of the French Council Presidency mixed the provision on net neutrality with copyright protection measures,[517] again suggesting that the juridification of the internet can in fact integrate liberal and non-liberal ideas about its development. According to the proposal, end-users should decide what *lawful content* they wanted to be able to send and receive, and which services, applications, hardware and software they wanted to use for such purposes.[518] The Council and the Parliament later agreed on a version that only enabled *ad hoc* intervention by NRAs in cases where the non-neutrality of transmission actually caused a degradation of service or caused traffic to slow down across networks.[519]

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[515] Crawford, S., 2007.

[516] See Muys, S., 2006, p. 4.

[517] See *Compromise proposal for the consolidated version of the Proposal amending Directive 2002/22/EC, Brussels, 10 October 2008, Working Party on Telecommunications and Information Society, Room Document 71/08*, Article 20: "...- information on any restrictions imposed by the provider regarding a subscriber's ability to access, use or distribute lawful content or run lawful applications and services ..."

[518] 'Proposal for a Directive of the European Parliament and of the Council amending Directive 2002/22/EC on universal service and users' rights relating to electronic communications networks, Directive 2002/58/EC concerning the processing of personal data and the protection of privacy in the electronic communications sector and Regulation (EC) No 2006/2004 on consumer protection cooperation - Political agreement, Report to Coreper of 7 November 2008' (2008) Available at http://register.consilium.europa.eu/pdf/en/08/st15/st15093.en08.pdf, 3rd January 2009.

[519] See *European Parliament lead Industry committee adopts second reading reports on EU Telecoms Package, EU Telecom Flash Message 50/2009*, Cullen International, 24 April 2009.

Interestingly, whereas EU law allows for a careful market analysis before any net neutrality rules are imposed by the NRAs,[520] economic criticisms of net neutrality mainly evolve around the simple assumption that neutrality can be either regulated or not, claiming they want to protect the autonomy of the emerging economic transactions from legal irritations.[521] According to them, content providers traditionally benefited from the positive externalities of consumers paying for the networks, while they could raise their own service and advertising revenues. It is the market forces linked to large traffic flow over broadband that started to challenge this traditional business model, placing a higher burden on last-mile broadband service providers and giving them incentives to charge content providers for the extra effort they are making.[522] Hemphill argues that, while concerns of exclusion of content providers by broadband providers can be addressed with antitrust law, the extraction of content providers' profits by broadband providers could also have positive effects, such as access providers' subsidies for consumer broadband take up.[523] Of course, these assumptions seem like serious arguments and could be coupled with the legal proceedings to be conducted by the European NRAs according to the 2009 Directives. Bearing in mind the complex body of rules that has traditionally placed a heavy burden on voice telephony providers, however, they seem like poor generalised justification against attempts to give regulators a statutory right to tackle the discrimination of IP traffic under certain circumstances.

If legal provisions on net neutrality are drafted in a sufficiently open manner that allows for regulatory reference to economic arguments (say on reduced utility due to quality of service degradation or limited choice), economy can 'enter' legal reasoning by means of similar structural couplings, as it does when an analysis of a relevant market is performed according to the EU *Framework Directive*. In this respect, a comparison between the EU and the US laws reveals the limits of the law's intervention, even if the need to regulate is established by economic reasoning. As to the potential exclusion of content providers, Hemphill himself identifies gaps in US

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[520] In this sense, the 2009 changes may be less ‘radical’ than suggested by Dods, D., Brisby, P., Hubbard, R., Ollerenshaw, K., Ingram, B., 2010.

[521] See Yoo, C. S., 2004-2005, p. 188.

[522] For an overview of the issues, see ibidem.

[523] Hemphill, C. S., 2008, p. 172 and 179.

competition law:[524] according to the Trinko ruling, a refusal to supply that breaches sector-specific access rules does not substantiate a claim under the anti-monopolization rule of the Sherman Act.[525] Furthermore, in the EU, access obligations currently only affect broadband network operators[526] and not Layer 3 retail broadband providers, who may also act as bottlenecks against individual users. The latter are unlikely to be dominant in the relevant market i.e. hold SMP, as they compete in the retail market with several other ISPs. Accordingly, instead of 'one size fits all' political legislative solutions, a tailor-made approach based on economic and public policy arguments can be used.[527] EU communications law has already made a general phylogenetic step in terms of reflexivity by means of regular market analysis procedures, showing that regulatory solutions required by modern technology are overly complex to be fully decided in advance by parliaments.

However, looking at the EU Framework, the net neutrality intervention of politicians also exposes the limits of the regulatory model based on SMP analysis and associated remedies that will be analysed in the next chapter. While this model creates a legal image of the economic environment by means of structural coupling with the economic analysis of the relevant markets, it may not be able to detect and process specific problems, such as two-sided platforms resulting from two-sided markets, where an intermediary, in this case an ISP, can differentiate pricing and service to each side of the market, suppliers and consumers, i.e. content providers and end-users.[528] Bottleneck problems resulting from these structures, i.e. subscribers of a particular ISP not willing to switch provider simply for the reason of not being able to access a certain internet service,[529] cannot be deemed non-existent simply because

[524] Ibidem, p. 155.

[525] Verizon v. Trinko, 540 U.S. 398 (2004). See also 15 U.S.C. § 2.

[526] See 'Commission Staff Working Document, Explanatory Note, Accompanying document to the Commission Recommendation on Relevant Product and Service Markets within the electronic communications sector susceptible to ex ante regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services (Second edition)' (2007), Available at http://ec.europa.eu/information_society/policy/ecomm/doc/implementation_enforcement/article_7/sec_2007_1483_2.pdf , 20th June 2009, p. 34

[527] Marsden, for example, proposes a co-regulatory approach to net neutrality. Marsden, C. T., 2010, p. 221 et seq.

[528] See e.g. ibidem,,p. 52.

[529] On the contentious issue how end-users may actually 'benefit' from using 'walled gardens' instead of a variety of applications available on the open internet, see Zittrain, J., 2008.

the law finds it difficult to tackle them. An interesting proof that there is more to bottleneck problems than the Commission and the NRA-defined markets susceptible for *ex ante* regulation can be found in the Framework itself: the *Universal Service Directive* enables the imposition of 'must carry' obligations for certain broadcasts in the general interest[530] in addition to market-analysis based SMP obligations. In this respect, one should bear in mind that even a 'flexible' legal model remains autopoietic, which may ultimately prevent it from detecting and dealing with certain market failures or public interest issues. In such cases, political intervention may be required, which will be further demonstrated in the next chapter.

The nascent autopoietic legal regulation of net neutrality in the EU may result in a large new body of regulatory rules that are likely to justify its placing in a separate chapter. Currently, however, the EU law sees net neutrality as yet another provision protecting end-users, whereas its links with the market analysis-based approach to setting regulatory remedies, dealt with in the next chapter, are far from obvious.

[530] See Article 31(1) of the 2002 *Universal Service Directive*: "Member States may impose reasonable 'must carry' obligations, for the transmission of specified radio and television broadcast channels and services, on undertakings under their jurisdiction providing electronic communications networks used for the distribution of radio or television broadcasts to the public where a significant number of end-users of such networks use them as their principal means to receive radio and television broadcasts. Such obligations shall only be imposed where they are necessary to meet clearly defined general interest objectives and shall be proportionate and transparent. The obligations shall be subject to periodical review."

5 ACCESS AND INTERCONNECTION – A REFLEXIVE CLOSURE

Interconnection obligations regulating wholesale i.e. inter-operator exchange of telephone traffic have traditionally been the cornerstone of regulation for competition on telecommunications markets,[531] enabling new competitors' end-users to call those of the incumbent. However, with the advent of IP technology and its introduction to what used to be the domain of traditional telecommunications networks, certain new phenomena as to exchange of communications traffic can be observed. First, previously unregulated exchange of traffic on IP networks that was based on settlement-free peering arrangements is increasingly becoming a commercial issue that may be perceived as calling for regulatory attention.[532] Second, voice traffic interconnection arrangements with the incumbents that were previously provided under strictly regulated terms may be again placed under regulatory scrutiny due to the migration of the incumbents' own networks to IP technology, i.e. NGN.[533]

Furthermore, the shift to NGN often implies the wholesale use of specific network infrastructure that is inherently not linked to IP, but is regularly used for all-IP-based services in commercial practice, Fibre to the Home/Premises (FTTH/FTTP) or Cabinet/Node (FTTC/FTTN) local loops that are replacing traditionally used copper loops being the key examples.[534] This type of infrastructure that is generally referred to as Next Generation Access Networks (NGAs) is becoming increasingly important for the development of services that require high-bandwidth, such as the simultaneous transmission of multiple high-definition IPTV channels. Access to this infrastructure triggers new regulatory issues, such as potential forbearance from regulation versus additional forms of mandated access.[535] The Australian example of Telstra's plans for FTTN deployment is quoted as an example where the decision

[531] Melody, W.H. in: Melody, W.H., 1997, p. 51 et seq.

[532] McCormack, E. in: Walden, I., Angel, J., 2005, p. 221. See also Kariyawasam, R. in Walden, I., Angel, J., 2001, p. 190.

[533] The first European telecom incumbent to announce the full migration to IP backbone for voice was Telecom Italia. See e.g. http://www.lightreading.com/document.asp?doc_id=22380, viewed 23rd October 2011.

[534] This approach to IP-based network analysis is also adopted by Cave. Cave. M., 2007.

[535] Ibidem.

whether or not to regulate access seemed to have directly affected Telstra's investment decisions.[536]

This chapter will demonstrate how the EU communications law has, despite building on its own persistent autopoietic concepts of network interconnection and access, resorted to increased flexibility in order to be able to tackle new types of network access and interconnection described above. This has primarily been achieved by means of re-using technology-neutral competition law concepts and coupling with the economic analysis. However, this reflexive coupling with the economic system is limited to certain specific aspects of autopoietic legal regulation. Whereas the 2002 Framework requires market analysis to be performed at the stage of determining SMP, a similar in-depth economic justification is not required when imposing individual access and interconnection remedies. The latter process is largely discretionary though, which enables coupling not only with market findings but also with political preferences of the regulatory bodies. This sometimes resulted in politically-motivated interference with regulatory principles while failing to offer certain potentially desirable long-term market solutions.

This will add a further point to the 'stickiness' of the legal system in relation to the communications market: increased flexibility can only be reached within the law itself, by means of more open legal definitions, more general i.e. EU Treaty-based competition law image of network access, and increased coupling with purpose-specific regulatory discretion. Despite its intensive self-promotion, the law inevitably still lacks direct access to economic transactions in the wholesale communications business.

5.1 Regulatory approach to wholesale services regulation

Like legal concept of voice telephony, European model of wholesale access and interconnection model saw a major change in 2002. Based on the Commission's understanding of the convergence trend,[537] a new general concept of wholesale, i.e.

[536] Ibidem.

[537] See *Green paper on the convergence of the telecommunications, media and information technology sectors, and the implications for regulation, COM(97)623*.

inter-operator ‘access’ has been introduced to the legal framework, which includes both 'interconnection' of independent networks and 'access' to certain network elements or services.[538] Although still largely relying on the pre-2002 regulatory solutions, both concepts have been linked to a more flexible market analysis-based approach to setting regulatory measures.

As in the case of VoIP, the US regulatory model will be offered as an alternative scenario attempting to regulate a similarly developed market yet living a rather different legal life. In particular, whereas the European concept of local infrastructure unbundling can be seen as a legal transplant from the US system, the EU Framework managed to use it in a more reflexive (yet still self-referential) way when the NGA networks were seen emerging in the environment. In addition to a high degree of regulatory discretion also known in the US, the EU legal system introduced competition law analysis and required direct coupling with the economic analysis. Regardless of these developments, however, European law remained 'sticky' in different ways. In addition to the actual continuity of the ONP remedies into the NRF regulatory practice, parts of the EU law's own Treaty-based competition doctrine have been offered as a universal remedy to cure new communications market problems.

European concepts of access and interconnection

The concept of access to specific network elements was not unknown to the EU legal regulatory framework before 2002. In 2000, Regulation 2887/2000 on unbundled access to the local loop expressly mandated access to metallic loops of the European telecom incumbents *inter alia* for the purposes of providing broadband services, at the time primarily used for the provision of (IP-based) high-speed access to the open internet.[539] However, it was only in 2002 that a general concept of wholesale access had been introduced to the EU directives.

[538] See Article 2 of the 2002 *Access Directive*.

[539] See recital 13 of the *Regulation 2887/2000*.

The 2002 *Access Directive* defined 'access' as "the making available of facilities and/or services, to another undertaking, under defined conditions, on either an exclusive or non-exclusive basis, for the purpose of providing electronic communications services." This is deemed to cover "*inter alia*: access to network elements and associated facilities, which may involve the connection of equipment, by fixed or non-fixed means (in particular this includes access to the local loop and to facilities and services necessary to provide services over the local loop), access to physical infrastructure including buildings, ducts and masts; access to relevant software systems including operational support systems, access to number translation or systems offering equivalent functionality, access to fixed and mobile networks, in particular for roaming, access to conditional access systems for digital television services; access to virtual network services."[540] According to this definition, it is obvious that the European legislator intended to encompass a wide range of inter-operator and service provider agreements, including the previously narrower concept of interconnection. The latter has been defined by the *Interconnection Directive* of 1997 as "the physical and logical linking of telecommunications networks used by the same or a different organization in order to allow the users of one organization to communicate with users of the same or another organization, or to access services provided by another organization. Services may be provided by the parties involved or other parties who have access to the network."[541] Almost the same definition can be found in the *Access Directive*[542] with the express addition that "interconnection is a specific type of access implemented between public network operators", which shows the continuity of European legal concepts, even following the 2002 law reform.

Despite some specific examples that have been included in the definition of access, it should be borne in mind that both the 'access' and the 'interconnection' definitions are sufficiently neutral to cover IP-related types of access and interconnection. These include both the exchange of IP traffic over different networks, and the making

[540] See Article 2 (a) of the 2002 *Access Directive*.

[541] See Article 2 (1) (a) of the 1997 *Interconnection Directive*.

[542] 'Interconnection "means the physical and logical linking of public communications networks used by the same or a different undertaking in order to allow the users of one undertaking to communicate with users of the same or another undertaking, or to access services provided by another undertaking. Services may be provided by the parties involved or other parties who have access to the network." Article 2 (b) of the 2002 *Access Directive.*

available of elements required to provide internet access and managed IP-based services (e. g. VoIP or IPTV), such as bitstream services or shared access to the metallic local loops. This seems to be an important shift from the previous framework, where Annexes I and II of the 1997 *Interconnection Directive* limited the scope of interconnection obligations to specific categories of regulated entities and beneficiaries that did not explicitly include. say internet backbone providers or ISPs. The new definitions can potentially be applied to all types of electronic communications network operators and service providers. However, in order to properly understand the actual legal consequences of the new definitions, one should examine the broader perspective of the actual practical application of the European access and interconnection system.

Despite continuity from the more rigid ONP regime, the 2002 access and interconnection definitions first of all serve merely as means of 'classifying' the types of behaviour that can *potentially* be regulated by law if an operator holds Significant Market Power (SMP).[543] The concept of SMP kept the name previously used by the ONP directives, but changed under the 2002 Framework to a near-equivalent of the concept of dominance under general competition law.[544] Compared to the 40-50% market share threshold used in competition law, the initial SMP used the 25% market share.[545] Moreover, the ONP directives did not clearly define the markets based on substitutability criteria used in general competition law, but rather relied on somewhat broad market 'segments', namely fixed telephony, mobile telephony and leased lines services.[546] All these changes were in line with the general idea of the shift from *ex ante* regulation to general competition law, wherever possible, that accompanied the passing of the 2002 NRF.[547]

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[543] See Article 8 of the 2002 *Access Directive*.

[544] See Article 14(2) of the *Framework Directive*: "An undertaking shall be deemed to have significant market power if, either individually or jointly with others, it enjoys a position equivalent to dominance, that is to say a position of economic strength affording it the power to behave to an appreciable extent independently of competitors, customers and ultimately consumers."

[545] "...an organization shall be presumed to have significant market power when its share of the relevant leased-lines market in a Member State is 25 % or more." See *Directive 97/51/EC*. See also Walden, I., 2009, p. 188-189.

[546] See ibidem.

[547] The idea of this shift is explained in Walden, I., 2009, p. 170.

In order to be regulated, a certain type of access to the SMP operator's facilities must also fall within the scope of one of the regulated markets that have been defined by the NRAs as appropriate to national circumstances in accordance with the principles of competition law, taking, nevertheless, the utmost account of the Commission current Recommendation on relevant markets.[548] In case the Commission disagreed with an NRA market definition that departs from the Recommendation, it could ultimately veto such a definition, observing the commitology procedure.[549] Accordingly, despite the increased technological neutrality of the new framework compared to the old one, there was still room to pursue non-technology neutral policy by means of relevant market definitions. This could include forbearance from regulating IP-based networks, including their underlying infrastructure.[550] Under the initial Commission Recommendation, full and shared access to the *metallic* local loops and bitstream access were regulated,ensuring continuity from the previous ONP regime.[551] In 2007, using a new technology-neutral definition of 'physical access infrastructure', the Commission explicitly extended regulation potential from metallic local loops to other infrastructures such as ducts, poles, and fibre.[552]

It should be noted, though, that the 2002 Framework enabled additional mandating 'access' in a symmetric way, i.e. for all, including non-SMP operators. Article 12 of the 2002 *Framework Directive* included very limited obligations of Member States in respect of facility sharing: where an operator had the right under national legislation to install facilities on, over or under public or private property, or could take advantage of a procedure for the expropriation or use of property, national regulatory authorities were to encourage the sharing of such facilities or property. However, particularly where operators were deprived of access to viable alternatives because of the need to protect the environment, public health, public security or to meet town and country planning objectives, Member States could impose the sharing of

[548] See Article 15 of the *Framework Directive* and Article 8 of the *Access Directive*.

[549] See Articles 7 and 22 of the 2002 *Framework Directive*.

[550] Cave, for example, automatically associates fibre deployment further to the customer with the development of IP-based networks. Cave. M., 2007.

[551] See *Commission Recommendation 2003/311/EC* and *Regulation 2887/2000.*

[552] See *Commission Recommendation on relevant product and service markets within the electronic communications sector susceptible to ex ante regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services (Second edition), C(2007) 5406 rev 1*.

facilities or property (including physical co-location) on another operator or take measures to facilitate the coordination of public works. Such sharing or coordination arrangements could even include rules for apportioning the costs of facility or property sharing.[553] The 2009 review of the 2002 Framework provided for a change: instead of having to prove one of the obstacles affecting network duplication listed above, the NRAs could exercise discretion when opting in for mandatory facility sharing.[554]

The EU rules on access and interconnection have been dealt with in NGN-related practice not only by the Commission and the NRAs, but also by the ERG. The latter carried out a thorough analysis of regulatory implications of IP-based interconnection. In its *Final Report on IP-Interconnection*[555] they observed that, with the migration to an IP-based environment, interconnect pricing regimes may eventually change from per-minute charging (calling party network pays) to 'Bill and Keep' models[556], whereby traffic is exchanged between the operators free of charge. The Report did not provide comprehensive guidance for future regulation of IP interconnection though, leaving the door largely open to new solutions that may evolve in commercial practice. However, it did recommend that NRAs address certain new issues, such as the change in number of access point and network hierarchy levels, the presence of 'control points' in the network hierarchy that might result in market power, or the need to ensure end-to-end connectivity, interoperability, and QoS.[557] Later, based on further data and, e.g. the experience from the US where 'Bill and Keep' was agreed contractually, BEREC took a more clear view in favour of 'Bill and Keep', stating that 'weighing the usage per capita, price and ownership effects together, the higher usage and lower price per minute clearly

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[553] See Article 12 of the 2002 *Framework Directive*.

[554] Article 12 (1) of the 2009 *Framework Directive*: "Where an undertaking providing electronic communications networks has the right under national legislation to install facilities on, over or under public or private property, or may take advantage of a procedure for the expropriation or use of property, national regulatory authorities shall, taking full account of the principle of proportionality, be able to impose the sharing of such facilities or property, including buildings, entries to buildings, building wiring, masts, antennae, towers and other supporting constructions, ducts, conduits, manholes, cabinets."

[555] 'Final report on IP interconnection ERG(07)09' (2007) Available at http://erg.eu.int/doc/publications/erg_07_09_rept_on_ip_interconn.pdf, 30th March 2011.

[556] Ibidem, p. 28-31.

[557] Ibidem, p. 35.

indicate BaK results in a higher consumer and higher total welfare.'[558] The Report, however, did not make a clear preference for either contractual (self-regulatory) or legally mandated 'Bill and Keep'.[559]

The issue of Next Generation Access networks used to provide high-speed IP-based services has also been addressed within the ERG, and has been submitted to its NGN Project Team, which resulted in the *ERG Opinion on Regulatory Principles of NGA*[560]. The document is a thorough study of possible regulatory solutions from the perspective of the legal framework and business models for NGA deployment. The document, however, includes no specific recommendations for NRAs. This seems logical in the sense that huge differences in terms of NGA technology, development and strategy exist among Member States.[561] These differences were, however, not an obstacle for the Commission who, driven by its harmonisation agenda based on the EU Treaty and coupled with political and commercial pressures for legal certainty and desired revenues,[562] proposed a Recommendation on detailed access and costing rules for the NGAs, a document that combines rather pro-competitive and largely investor-protecting elements.[563]

Again, a relatively open framework enabled creativity by the NRAs. For example, NGAs have been the subject of analysis by Ofcom in its public discussion document *Regulatory challenges posed by Next Generation Access networks*.[564] The document deals with various aspects of regulating NGN access technologies, including fibre unbundling at the exchange, sub-loop unbundling in order to enable FTTC deployment, and the future of bitstream products.[565] As to the potential phasing out of certain technology solutions (e. g. local exchange access), Ofcom believed that its

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[558] *BEREC Common Statement on Next Generation Networks Future Charging Mechanisms / Long Term Termination Issue*s, June 2010, BoR (10) 24 Rev 1, p. 4 and 19.

[559] See e.g. ibidem, p. 15.

[560] 'ERG Opinion on Regulatory Principles of NGA ERG (07) 16rev2' (2007) Available at http://www.erg.eu.int/doc/publications/erg07_16rev2_opinion_on_nga.pdf, 31st May 2009.

[561] See ibidem, p. VI.

[562] See below fn. 720.

[563] *Commission Recommendation of 20.9.2010 on regulated access to Next Generation Access Networks (NGA), C(2010) 6223 final.*

[564] *Public discussion document* (Ofcom, 23 November 2006).

[565] Ibidem, p. 34-35.

role was not to protect present alternative operators' investments against market risks that may arise, for example from the emergence of new technology developments that supersede some operators' current market propositions. However, Ofcom considered it appropriate to take into account the operators' interests in terms of the availability of wholesale inputs throughout the life of the assets in which they have invested, as competitive operators were making significant investment in communications infrastructure on the expectation that currently available regulated wholesale products (e.g. unbundled local loops) would be available for a reasonable period of time.[566] In May 2009, Ofcom went further by issuing *New Build Investment Guidance on Telecoms Regulation*[567], a document that combines the principles of equivalence of access for third parties with the principles of reward for investment risk and legal certainty for investors.[568] Ofcom did not approach the subject in the context of regular market analyses mandated by EU law, but rather in a horizontal way, encompassing various regulated markets and even symmetric regulation (e.g. building ducts with extra capacity and sharing them).[569] Similarly, Ofcom's 2010 consultation document on regulatory issues as to super-fast broadband integrates a series of issues regarding access to- and investments in NGA, such as evaluating the need for pricing regulation, virtual unbundled local access (VULA) to fibre networks, and incentives by different operators to roll out their own NGA networks.[570]

In general, the 2002 EU legal regulatory system reveals a potential for evolution based on structural coupling with the NGN-related developments. The system is based on relatively open legal concepts, and seems to be relatively open to the environment by means of regular market analyses by the NRAs and associated

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[566] Ibidem, p. 37.

[567] Ofcom's 'Guidance Note' (2009) Available at http://www.ofcom.org.uk/telecoms/ioi/orp/newbuild/NewBuildGuidance.pdf, 31st May 2009.

[568] Ibidem, p. 2-3.

[569] "We would expect new build developers to install spare duct capacity and use sub-ducting, the adoption of which should ensure that the capacity of the installed duct would be sufficient to support duct sharing in the future, should that prove necessary for effective competition." Ibidem, p. 5.

[570] 'Super-fast broadband - Context and summary for Ofcom's consultations on the wholesale local access and wholesale broadband access markets' (2010) Available at http://stakeholders.ofcom.org.uk/binaries/consultations/wla/annexes/context.pdf, 7th November 2010.

mandatory public consultations.[571] In addition, the principle of technological neutrality is meant to prevent both discrimination of new technologies, as well as regulatory measures becoming obsolete simply due to change in technologies.[572] Nevertheless, one should not overstate this openness. The starting point for NRAs is always the *Commission Recommendation on Relevant Markets*, whereas the Commission may ultimately veto the NRA analysis.[573] When performing these activities, the Commission is bound to pursue harmonisation, which is again an internal standard of the EU legal system. In this respect, strategic plans of the NRAs, such as that of Ofcom, to tackle NGA-related issues must ultimately fit into the legal scheme prescribed by the NRF, regardless of their creativity and broadness. Before looking at specific aspects of this simultaneous openness and closure, the comparison with the US system shall be given, whereby largely similar concepts or even legal 'transplants'[574] primarily achieve flexibility by means of coupling with purpose-specific (political) discretion.

US concepts of unbundled network elements and interconnection

Some years before the introduction of local loop unbundling in the EU, the US Telecommunications Act of 1996 provided for unbundling of local loops and associated unbundled elements. According to the initial position of the FCC, this included not only access to raw copper loops, but also to ADSL-capable local loops in a manner similar to the European concept of mandated bitstream offer.[575] In order to unbundle specific elements, the FCC must weigh the need for access with the need to facilitate investment by using standards of ‘necessity’ and ‘impairment of the ability of the telecommunications carrier seeking access to provide the services that it seeks to offer'.[576] The FCC’s understanding of unbundling standards has not only

[571] Article 6 of the *Framework Directive*.

[572] See Article 8(1) of the *Framework Directive*.

[573] See Article 7 of the *Framework Directive*.

[574] See Watson, A., 1993.

[575] See above.

[576] Sec. 101 of the *Telecommunications Act* 1996.

been subject to judicial review[577] but has also undergone several changes based on the administration's contemporary political goals. Most notably, in 2005, the FCC declared that wholesale DSL was an 'information service' not subject to access obligations.[578]

The 1996 Act imposes a general duty on all telecommunications carriers to interconnect directly or indirectly with the facilities of other carriers,[579] whereas rates have historically been heavily regulated.[580] However, based on the FCC opinion, calls to ISPs were traditionally excluded from the compensation mechanism as 'interstate calls'.[581] Nevertheless, the FCC has indicated that in cases where an IP-enabled service sends traffic to the PSTN, its provider should pay for that access.[582] In addition, the FCC also ruled that, as an immediate interim measure, (PSTN-) interconnected VoIP providers should contribute to the Universal Service fund.[583] The quoted reasons were of practical nature: declining revenues of stand-alone interstate long-distance traffic in comparison with the dramatic growth in interconnected VoIP.[584] Accordingly, the inclusion of VoIP providers was not based on specific legal construction of statutes, but rather on general powers of the FCC to put down rules on the Universal Services fund and contributions.

US developments on access and interconnection reveal an interesting paradigm whereby regulation is subject to regular change based either on both broad discretionary powers given to the FCC and vague statutory definitions that may be tailored to daily policy needs. However, pointing at the co-evolutionary relationship of law, technology, sector organisation and performance, Bauer and Wildman argue that the FCC unbundling policy was constantly based on incomplete information and

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[577] The US Supreme Court has set the limits of unbundled access in AT&T Corp. v. Iowa Utilities Board, 119 S. Ct. 721 (1999). See also Huber, P. W., Kellogg, M. K., Thorne, J., 1999, p. 1017-18.

[578] See *Wireline Broadband Internet Access Order* (FCC, August 2005).

[579] Sec. 251 *Telecommunications Act* 1996.

[580] Lee, K.; Prime, J. in: Walden, I.; Angel, J., 2005, p. 540.

[581] Ibidem.

[582] Ibidem, p. 585.

[583] *Report and Order and Notice of Proposed Rulemaking* (WC Docket No. 04-36, released June 27, 2006).

[584] Ibidem, p. 3, 11.

partial models, and this policy was only corrected when feedback on its effect became available.[585] Whereas this is a demonstration of autopoietic nature of both the law and the FCC as an institution, and their lack of synchronisation with other subsystems, it also shows how, the US regulatory legal system primarily couples with purpose-specific political decision-making instead of economic analysis as the EU Framework does. The latter finding should not be overstated though: it shall be further argued that politics still manages to find its way into the EU system not only at the legislative but also at the regulatory level by means of coupling due to both European Commission's hybrid role[586] and the NRAs' national character.

5.2 The evolution of the regime

Compared to the 1997 EU interconnection regime, the 2002 procedural rules contained in the directives are more complex, whereas the details of the SMP status and obligations are only set out in the NRA decisions. Various procedural and substantive elements of the evolving regime can be analysed. In particular, one can look at the following legally defined elements of the regulatory process:

- the NRA status;
- consultations at the EU level;
- national consultations; and
- judicial review.

As to substantive rules, the following elements can be analysed:

- the operator with obligations;
- the operator with corresponding rights;
- the networks and technologies to whom the obligations refer; and
- the scope of rights and obligations.

The ONP *Framework Directive 90/387/EEC* contained no specific provisions as to NRA status. However, the *95/62/EC Voice Telephony Directive* expressly demanded in Article 2 that NRAs be "legally distinct and functionally independent of the telecommunications organizations, entrusted by that Member State, inter alia, with

[585] Bauer, J. M., Wildman, S. S., 2006, p. 418, 427, 438.

[586] See e.g. *Wallace*, H., Wallace, W., 2000, p. 15.

the regulatory functions'" that are addressed in the same directive. The latter included the intervention in interconnection matters described in Article 11 of the same directive. Looking at the 2007 review proposals, further attempts were made by the Commission to increase NRA independence from the political bodies of Member States,[587] and these attempts were partially successful in the final version of the 2009 directives.[588] Due to the direct role of the Commission in the regulatory proceedings, such independence generally means the strengthening of the autonomy of harmonised EU legal regulatory principles against the specific national political programmes.

As to the rights and obligations of network access, the 1997 *Interconnection Directive* included the lists of specific entities that were obliged or had the right to request interconnection. These lists, which are included in Annexes I and II of the Directive, associate relevant entities with the relevant networks and services they provide, and their market power. There are two layers of obligations to which the Annexes refer:

- the obligation to negotiate interconnection; and
- the obligation to grant access, which includes accepting all reasonable requests for network access, and specific obligations as to non-discrimination, transparency, charging and cost-accounting.[589]

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[587] *Proposal for a Directive of the European Parliament and of the Council amending Directives 2002/21/EC on a common regulatory framework for electronic communications networks and services, 2002/19/EC on access to, and interconnection of, electronic communications networks and services, and 2002/20/EC on the authorisation of electronic communications networks and services, COM(2007) 697 final*: "Member States shall ensure that national regulatory authorities exercise their powers independently, impartially and transparently. National regulatory authorities shall not seek or take instructions from any other body in relation to the day-to-day performance of the tasks assigned to them under national law implementing Community law. Only appeal bodies set up in accordance with [this directive] or national courts shall have the power to suspend or overturn decisions by the national regulatory authorities."

[588] See Recital 13 of the Directive 2009/140/EC (*Better Regulation Directive*): "The independence of the national regulatory authorities should be strengthened in order to ensure a more effective application of the regulatory framework and to increase their authority and the predictability of their decisions. To this end, express provision should be made in national law to ensure that, in the exercise of its tasks, a national regulatory authority responsible for ex-ante market regulation or for resolution of disputes between undertakings is protected against external intervention or political pressure liable to jeopardise its independent assessment of matters coming before it. Such outside influence makes a national legislative body unsuited to act as a national regulatory authority under the regulatory framework."

[589] See Articles 4 (1) and (2), 6 and 7 of the 1997 *Interconnection Directive*.

The difference between the entities to whom the layers are applicable stems from the types of networks they provide, but, even more importantly, from their market position. The obligation to negotiate interconnection refers to a broader circle of operators, including *inter alia* international operators, but specifically excluding ISPs, unless they also appear in another role.[590] However, with some exceptions, the main difference between the two layers refers to market power: only those operators from Annex I that hold SMP are obliged to follow the more specific rules of the *Interconnection Directive* described above.[591]

These specific obligations were all transferred to the 2002 *Access Directive*. There is a general obligation to negotiate interconnection for all network operators,[592] whereas NRAs *may*, subject to their discretion,[593] impose on SMP operators all the obligations previously specified in the 1997 *Interconnection Directive*, i.e. obligations as to the granting of access, non-discrimination, transparency of offer, price controls and cost-accounting.[594] However, looking at the traditional fixed termination market,[595] one

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[590] 1997 *Interconnection Directive,* Annex I, see Appendix. According to this definition, national laws could also grant specific interconnection rights to ISPs.

[591] Ibidem.

[592] Article 4 of the *Access Directive*: 'Operators of public communications networks shall have a right and, when requested by other undertakings so authorised, an obligation to negotiate interconnection with each other for the purpose of providing publicly available electronic communications services …" One can observe that this obligation is not limited to specific networks or operators.

[593] At least formally, the NRAs have since the introduction of the 2002 NRF been much more free in terms of being able to choose the remedies they impose on SMP operators. Compare the US system that is unlikely to evolve towards much stronger discretionary powers for the FCC, as the latter already possesses close to legislative powers and such a move would not be necessary. Similarly, Ofcom is unlikely to possess more formal discretionary powers in the future than it did under the *Telecommunications Act* of 1994, as this might contravene the EU law. Both the US and the UK are based on a legal tradition that grants more powers to administrative bodies. Whereas the US federal agencies are restrained by the federal administrative procedure, the UK has a tradition of extremely limited ground for appeal against an administrative decision. See Craig, P. P., 2003, p. 5 et seq. On the other hand, discretionary powers do not only mean legal conditional programming but can also be perceived as political decision-making based on certain political option being in power. For example, in the case of the FCC, the role of the commissioners is to a large extent political. The commissioners are chosen with a view to their political party affiliation. Lee, K.; Prime, J. Walden, I. in: Walden, I., Angel, J., 2005, p. 518. Equally, the European Commission, which plays a crucial role in EU regulation, is perceived as a political body. Spence, D., 2006, p. 512. Of course, in strict terms, even wholly political discretionary decisions will still maintain their legal character, as will politically enacted laws.

[594] See Article 8 of the *Access Directive*: "Member States shall ensure that national regulatory authorities are empowered to impose the obligations [of transparency, non-discrimination, accounting separation, access to, and use of, specific network facilities, and price control and cost accounting]."

[595] Market 9 under the 2003 *Commission Recommendation on Relevant Markets* and Market 3 under the 2007 version of the same Recommendation.

can observe that all these obligations were imposed by European NRAs in their respective Member States, mostly with only minor differences, e.g. as to the type of price controls.[596] Moreover, remedies do not vary significantly in most individual Member States from the first to the second round of market analysis. In France, Ireland, Greece or Lithuania, for example, the remedies remained essentially the same in both rounds, whereas a more significant change can be observed in the Netherlands with the removal of the non-discrimination and accounting separation obligations and mandatory interconnection at the regional level.[597]

Continuous, almost mechanical imposition of the series of remedies that were already contained in the 1997 *Interconnection Directive* is an indicator of the autopoiesis of the measures contained in EU communications law. This autopoietic harmonisation only reaches its limits when it comes to the operational details of remedies left to the NRAs, which have according to the 2002 rules not been subject to the Commission veto and therefore Community law's strong harmonising powers. For example, price control and cost accounting remedies in different Member States include different methodologies (long-run incremental costs - LRIC, fully distributed costs or benchmarking)[598], and may yield different costing results,[599] whereas it is questionable whether different prices can be linked to objectively different national market conditions.[600] This suggests that harmonisation by means of a common reference to autopoietic legal remedies of the NRF only applies to concepts as far as they can be elaborated and prescribed at the EU level. The details and enforcement of remedies will therefore inevitably be part of the autopoietic laws of the Member States. As the findings on the institutional framework suggest, this has proven to be the utmost political problem for the Commission.[601] This should be attributed to the

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[596] See 'Cullen International EU Market Analysis Database' available at http://www.cullen-international.com/documents/cullen/prindex.cfm, 29th December 2009.

[597] Ibidem.

[598] Ibidem.

[599] In September 2008, local call termination in the UK costed just below EUR 0.0030 and in the Netherlands just below EUR 0.0080, which indicates a huge pricing gap despite using similar methodologies. 'See Cullen International Cross-country Analysis' available at http://www.cullen-international.com/documents/cullen/prindex.cfm, 29th December 2008.

[600] The issue was addressed by the European Commission in their *Recommendation on the Regulatory Treatment of Fixed and Mobile Termination Rates in the EU, C(2009) 3359 final*.

[601] See *above* at p. 61.

limits of the Commission legal harmonising powers that, according to the 2002 Framework, have not applied to the remedies, leaving more room for purpose-specific activities of the NRAs.

Autopoiesis of regulatory legal obligations has other practical consequences for legal evolution. Namely, the principle of cost-based access pricing acted as an obstacle against the imposition of settlement-free exchange of traffic traditionally known in IP-based networks as 'peering',[602] despite the findings that the transition to such a system would be beneficial for total and consumer welfare.[603] For example, according to the majority of experts participating in the 2008 ERG legal research on the possible imposition of the 'Bill and Keep' system as a remedy, such a discretionary option did not exist in the 2002 Framework. It is argued that 'Bill and Keep', an alternative mechanism which enables the parties to keep their retail revenues and send the traffic to another party's network free of charge, cannot be interpreted as a pricing and costing remedy under Article 13 of the 2002 *Access Directive*. The latter provisions *inter alia* require the operators to be able to recover costs, which casted doubt upon the compatibility of 'Bill and Keep' with the 2002 regime. As a response to these limits, some Member States launched political proposals to the Council of Ministers to amend the *Access Directive* in order to specifically provide for such a discretionary option.[604] Despite this, the Commission's relatively recent actions have reinforced the idea of cost-based call termination by means of issuing a Recommendation on fixed and mobile termination charges based on efficient costs.[605] As a compromise, a modified paragraph has been added to the general powers of the NRAs in respect of interconnection, which *potentially* enables

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[602] See Kariyawasam, R. in Walden, I., Angel, J., 2001, p. 187 et seq.

[603] "The most important level effect is the expected significant higher usage and lower price per minute that, although with possibly slightly higher prices of low usage offers and slightly lower mobile ownership, overall will lead to higher consumer and total welfare." *BEREC Common Statement on Next Generation Networks Future Charging Mechanisms / Long Term Termination Issues June 2010, BoR (10) 24 Rev 1.*

[604] A compromise can be found in the document 'Review of the EU regulatory framework for electronic communications networks and services: Proposal for a Directive of the European Parliament and of the Council amending Directives 2002/21/EC on a common regulatory framework for electronic communications networks and services, 2002/19/EC on access to and interconnection of electronic communications networks and services, and 2002/20/EC on the authorisation of electronic communications networks and services - Political agreement' (2008) Available at http://register.consilium.europa.eu/pdf/en/08/st17/st17006.en08.pdf, 29th December 2008.

[605] *Recommendation on the Regulatory Treatment of Fixed and Mobile Termination Rates in the EU, C(2009) 3359 final.*

an NRA to impose 'Bill and Keep' on operators, provided that the proposal passes the 'Article 7 procedure'.[606]

Whereas one can always argue for the superiority of cost-based pricing against 'Bill and Keep',[607] the legal preference for cost-based pricing no longer needs such a justification, as the costing principle is already part of the law. One only needs to rely on the 2002 regime that obviously did not foresee an alternative option, which confirms the autopoietic nature of the law's image of interconnection pricing.[608] The relatively closed nature of this image stems from the fact that the law has in the past decided to look at interconnection issues from the perspective of the 'calling party pays' economic regime traditionally used among the operators of circuit-switched networks.

From the procedural point of view, in parallel with the introduction of increased discretionary powers of the NRAs in the 2002 regime, consultations at the national and the EU level have been introduced, which confirms the trend towards increasing reliance on procedures that has been identified by Scott.[609] Before passing a measure on access or interconnection, the NRA must generally conduct a public consultation.[610] The NRAs must publish their national consultation procedures, whereas Member States are to ensure the establishment of a single information point through which all current consultations can be accessed. The results of the

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[606] "With regard to access and interconnection referred to in paragraph 1, Member States shall ensure that the national regulatory authority is empowered to intervene at its own initiative where justified in order to secure the policy objectives of Article 8 of Directive 2002/21/EC (Framework Directive), in accordance with the provisions of this Directive and the procedures referred to in Articles 6 and 7, 20 and 21 of Directive 2002/21/EC (Framework Directive)." See Article 5(3) of the 2009 *Access Directive*.

[607] On internet 'peering' and 'sender keeps' regimes see e.g. Kariyawasam, R. in Walden, I., Angel, J., 2001, p. 187 et seq.

[608] See Article 13(1) of the *Access Directive*: "National regulatory authorities shall take into account the investment made by the operator and allow him a reasonable rate of return on adequate capital employed, taking into account the risks involved." These factors are generally not considered in 'Bill and Keep' arrangements, because all revenue is collected on the retail side.

[609] Scott, C.,1998, p. 244 and 248.

[610] See in particular Article 6 of the *Framework Directive*: "…Member States shall ensure that where national regulatory authorities intend to take measures in accordance with this Directive or the Specific Directives which have a significant impact on the relevant market, they give interested parties the opportunity to comment on the draft measure within a reasonable period."

consultation procedure are made publicly available by the relevant NRA.[611] In addition, there is an express requirement for a judicial review of NRA decisions.[612] These requirements serve as additional procedural safeguards against the NRAs acting arbitrarily. Of course, one should bear in mind that it is Article 6 of the *European Convention on Human Rights and Basic Liberties* that already requires the right to judicial review whenever civil rights and obligations are in question. Accordingly, one should primarily see the judicial review obligation of Member States under the directive as re-iteration of the established principle in order to avoid doubt. Similarly, the requirement for public consultations is the manifestation of the general principle of transparency included in the *Treaty on the Functioning of the European Union*.[613] Therefore, while it has been important from the law's internal point of view to stress said principles in relation to more flexible regulatory provisions, the effect of their explicit enactment is obviously limited when it comes to actual external control over regulation.

Of course, arguments can be put forward as to the influence of public consultations on the actual quality of regulation. According to Baldwin and Cave, public consultations are an important part of due process, ensuring equality, fairness and consistency of treatment and, accordingly, 'good' regulation.[614] One should note, though, that any inputs received during the public consultation procedures do not need to be taken account of in the final measure: there is simply a duty of the NRA to publish the results of the consultation.[615] Accordingly, public consultations do not turn the law into an instrument of corporatist governance by various interest groups, but instead serve the law's internal consistency function and attempt to legitimise the law's perception by other systems. In this respect, it should be noted that public consultation mechanisms also have a broader tradition in legal regulation, and have also for some time been part of the US administrative law rule-making,[616] Therefore,

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[611] Except in the case of confidential information in accordance with Community and national law on business confidentiality. Article 6 of the *Framework Directive*.

[612] See Article 4 of the 2002 *Framework Directive*.

[613] Article 15 (3): "… Each institution, body, office or agency shall ensure that its proceedings are transparent ..."

[614] Baldwin, R., Cave, M., 1999, p. 77-79.

[615] Article 6 of the *Framework Directive*.

[616] Harter, P. in: Seerden, R., 2002, p. 324.

they should be viewed as the law's internal attempt of coupling with the environment. They are neither the ability of other social systems to directly influence the content of legal obligations, nor the only means of the law's coupling with the environment. For example, in Portugal the position as to mandating access to fibre has not changed from the phase of public consultation to the measure notified to the Commission.[617] Moreover, in its proposed *Recommendation on NGA*, the Commission came up with a detailed access and pricing regulation for the NGA[618] at the EU level before receiving any formal inputs from the relevant stakeholders.[619] Based on specific details in the latter document, such as the rules for pricing of ducts or the risk premium for investment in infrastructure,[620] one can assume that intensive couplings with the opinions of interest groups existed before the phase of public consultation. This can be explained both by the political role of the Commission and the fact that the latter is subject to constant and intensive lobbying, and by the multi-disciplinary knowledge and approach of the people involved in the drafting process. In this respect, the 2002 Framework's introduction of mandatory coupling with publicly expressed opinions of interested parties is only one of the means of the law's coupling with the environment. Public consultations do, however, hold a special

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[617] ANACOM has not come up with any particular plans to grant access to dark fibre despite substitution in the access network. See documents available at http://www.anacom.pt/render.jsp?contentId=611898, 19th January 2009. Similarly, in the case of Ofcom consultations on VoIP (see the chapter on VoIP) the outcome of the proceedings was far from dependant on specific evidence sought, but rather on finding pragmatic solutions that could overcome the lack of detailed interpretation by the European Commission. The same is true for the FCC's changing position on wholesale DSL (see the access and interconnection chapter).

[618] See the first autumn 2008 draft of the 'Commission Recommendation of on regulated access to Next Generation Access Networks (NGA)' (2008) Available at http://ec.europa.eu/information_society/policy/ecomm/doc/library/public_consult/nga/dr_recomm_nga.pdf , 25th June 2009, see Appendix. In addition, Annex II sets detailed rules on application of the principle of 'equivalence', i.e. that wholesale inputs including ordering procedures for self-supply must fully correspond to those intended for external supply: "In order to create a level playing field among entrants and the incumbent for the provision of NGA-based services, regulation should require the incumbent to provide access to its passive infrastructure under the same conditions, be it internally or externally. [...]"

[619] 'Commission launches public consultation on Next Generation Acccess Networks (NGA)' (2008) Available at http://ec.europa.eu/information_society/policy/ecomm/library/public_consult/nga/index_en.htm, 18th January 2009.

[620] See 'Draft Commission Recommendation on regulated access to Next Generation Access Networks (NGA)' (2008) Available at

http://ec.europa.eu/information_society/policy/ecomm/doc/library/public_consult/nga/dr_recomm_nga.pdf, 18th January 2009.

position within the law's self-observation, as they give stakeholders formally recognised *equal* rights of access to the decision-making mechanism.

The essentially internal development of EU law becomes even clearer if one views it from a longer time perspective. Whereas the shift from less to more legal discretion is obvious when comparing the 1997 and the 2002 regimes, one could easily claim that a reverse trend is present between the years 1995 and 1997. Indeed, the 1997 *Interconnection Directive* specified detailed conditions as to interconnection at the EC level, whereas the 1995 directive only dealt with interconnection in one article, specifying general rules for interconnection of fixed and mobile operators.[621] Nevertheless, the development between 1995 and 1997 must be viewed as an internal function of the legal (and political) programme already in place. The *90/387/EEC Directive* already specified a framework for further setting the rules for network access by declaring that "open network provision conditions [was to be] be defined in stages under the procedure set out hereafter", whereby "the Council [was to] adopt specific Directives establishing open network provision conditions including a time schedule for implementing them".[622] Accordingly, the shift from the 1995 to the 1997 regime was not a result of a specific technology or business change, but rather the fulfilment of a legal programme (corresponding to political decisions) on liberalisation. Equally, as demonstrated by the mechanical imposition of the same remedies and their limits described above, the shift in 2002 was about the law creating its own internal image of increased flexibility in relation to the environment, rather than a flexible environment exercising its direct influence upon the law.

However, by means of the 2002 review, the law has also resorted to a highly complex internal mechanism for structural couplings with the economic system: competition law. Unlike the changes described above that dealt with partial aspects of the law's approach to regulation, the latter provides the law with a thorough image of the environment in the form of 'the markets'. It shall be submitted that, while this seems like a good recipe for the law to keep track of communications technologies applied in commercial practice, it is still the law's internal exercise with a chance of cyclical lock-in when, say efficiency would require a change in the regulatory approach.

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[621] Article 11 of the 95/62/EC *Voice Telephony Directive*, see Appendix.

[622] See Article 4 (1) and 6 of *Directive 90/387/EEC*.

5.3 Competition law as the law's immediate response

The competition law-based approach has obviously yielded results in terms of increased flexibility in response to the communications market developments. For example, unlike the 2000 EC Regulation on unbundling of the local loop, the 2002 Framework no longer refers to legacy monopoly infrastructures, but instead instructs the NRAs to see applied technologies as 'markets'. This confirms Scott's finding that there is a shift towards more general norms in communications law.[623]

Indeed, one can identify examples where the Commission, acting under the new Framework, has dealt with technological developments bearing in mind the requirement for technological neutrality, resorting to the principle of economic substitution in order to avoid the 'technological bias'. Following the 2007 revision, the market for 'metallic local loops' has been replaced with the market for 'physical access infrastructure'. In the *Explanatory Note to the 2007 Recommendation*, the Commission noted that metallic (copper) loops were increasingly being wholly or partly substituted by fibre,[624] indicating that substitution should be reflected in market definition 'irrespective of technology'. An explicit addition 'irrespective of the technology' has also been added in order to newly define the wholesale leased lines market,[625] which has, beside leased lines with traditional interfaces, enabled the inclusion of Ethernet lines as the core building blocks of IP-based NGN networks.

[623] Scott, C., 1998, p. 244 et seq.

[624] "Deployment of NGA access networks raises complex challenges on how to maintain a 'level playing field' for all competitors. Many incumbents are rolling out fibre to the street cabinet (FTTC) and then using VDSL technology over the copper sub-loop between the street cabinet and the customer's premises. Other operators, where the network architecture does not support this model, are planning for fibre to the home (FTTH). Some NG access models will result in a completely different local network architecture, where the intermediate node at the level of the 'central office' or 'main distribution frame' will eventually cease to exist." *Commission Staff Working Document, Explanatory Note, Accompanying document to the Commission Recommendation on Relevant Product and Service Markets within the electronic communications sector susceptible to ex ante regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services (Second edition), SEC(2007) 1483/2, p. 16*.

[625] See Annex to the 2007 *Recommendation on Relevant Markets*.

A move from *ex ante* regulation towards general competition law in connection with new technologies has been on the agenda since the start of the reform of the old ONP framework.[626] Moreover, the principle of the subsidiarity of *ex ante* regulation has been included in the 2002 Framework itself.[627] The criterion of the insufficiency of competition law is also one of the three criteria the Commission uses to define the markets susceptible to *ex ante* regulation.[628] In addition, as far as market and competition analysis is concerned, the 2002 Framework is based on Community competition law criteria.[629] As Jones and Carlin point out, there is now a clear scope for overlap and many points of interaction between the two bodies of law.[630] In the US, de-regulatory debates have also focused on the move from *ex ante* sectoral rules towards *ex post* antitrust regulation: Shelanski argues that such a shift is necessary, but should not necessarily make obsolete specific rules on non-economic objectives such as emergency calls, or specific interconnection rules as to the exchange of traffic.[631] The shift is not supposed to be linked only to the emergence of effective competition,[632] but also to the dynamics of internet-related markets that could be constrained by inappropriate regulation.[633]

It is argued that in the co-evolutionary process social systems can only come up with communications (statements) in their own code. Therefore, as a response to competition problems in the society, the legal system is likely to offer competition

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[626] See *Green paper on the convergence of the telecommunications, media and information technology sectors, and the implications for regulation, COM(97)623*, IV.1: "A further key issue is the balance between competition rules and sector-specific regulation, with many arguing for a preference to be given to the application of competition rules to individual cases within a converged environment, rather than the further development of extensive regulation."

[627] See Recital 27 of the *Framework Directive*: "It is essential that ex ante regulatory obligations should only be imposed where there is not effective competition, i.e. in markets where there are one or more undertakings with significant market power, and where national and Community competition law remedies are not sufficient to address the problem."

[628] See Recital 9 of the initial *Commission Recommendation of 11 February 2003 on relevant product and service markets within the electronic communications sector susceptible to ex ante regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communication networks and services 2003/11/EC*: "…The third criterion is that application of competition law alone would not adequately address the market failure(s) concerned."

[629] See Recital 27 of the *Framework Directive*.

[630] Jones, K., Carlin, F. in: Scherer, J., 2005, p. 100.

[631] Shelanski, H. A., 2007, p. 99.

[632] Kahn, A. E., 2006-2007, p. 160-161.

[633] Shelanski, H. A., 2007, p. 103.

law, and such a shift should not come as a surprise. One can therefore agree with Kahn, who analyses the US de-regulatory debates: according to him, the idea of the 'shift' is a truism, as competition law is the regulating law that remains if direct economic regulation is removed.[634] This is also consistent with Maher's finding that competition law should be seen as another form of regulating law.[635]

However, one should first verify empirically whether there actually is a shift. Based on the proliferation of *ex ante* rules discussed in the institutional context above, it is argued that there it is unlikely that there will be a shift whereby all *ex ante* regulation would be progressively removed and replaced with competition law. In this respect, the shift looks more like a political programme that cannot directly affect the law.

The relationship between competition law and *ex ante* regulation is generally not an exclusionary one. As European practice in competition law shows, the Commission is allowed to use competition law remedies despite regulatory remedies being in place, whereas in such cases competition law remedies finally prevail over NRA-set remedies.[636] However, this does not entirely explain why, according to the *Framework Directive*, *ex ante* remedies "should only be imposed where […] national and Community competition law remedies are not sufficient to address the problem."[637] In this respect, one should bear in mind that the temporary character of regulation has been programmed within the legal system itself. Notwithstanding part of the economic theory supporting such an approach to regulation,[638] EU law on

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[634] Kahn, A. E., 2006-2007, p. 165.

[635] Maher, I. in: Parker, C., Scott, C., Lacey, N., Braithwaite, J., 2004, p. 187-188.

[636] See Deutsche Telekom v. the Commission, T-271/03, 10 April 2008: "In that respect, it must be borne in mind at the outset that the fact that the applicant's charges had to be approved by RegTP does not absolve it from responsibility under Article 82 EC […] The fact remains that RegTP's decisions do not include any reference to Article 82 EC (see paragraph 114 above). In addition, RegTP's statement that '[c]ompetitors are not so prejudiced with regard to their competitive opportunities in the local network by the slight difference between retail and wholesale prices as to make it economically impossible for them to enter the market successfully or even to remain in the market' […] does not imply that the applicant's pricing practices do not distort competition within the meaning of Article 82 EC. On the contrary, it follows implicitly but necessarily from RegTP's decisions that the applicant's pricing practices have an anti-competitive effect, since the applicant's competitors have to resort to cross-subsidisation in order to be able to remain competitive on the market in access services […] In those circumstances, RegTP's decisions could not have created for the applicant a legitimate expectation that its pricing practices were compatible with Article 82 EC."

[637] Recital 27 of the *Framework Directive*.

[638] See e.g. 'Regulation of *British* Telecommunications' Profitability' (1983) Report by Professor Stephen C Littlechild to the Secretary of State for Industry, London, HMSO, para. 4.11.

electronic communications regulation has as such been programmed for regular reviews in the light of technological and market developments, including its own potential 'sunset' in practice.[639]

But what arsenal does autopoietic law possess to address competition problems otherwise addressed by sectoral regulation? European competition law has been present for decades,[640] so it is the most natural solution to resort to its general rules should *ex ante* controls be removed. Accordingly, due to the autopoiesis of law, the political decision to remove *ex ante* regulation and the corresponding legal decision that there is no ground to apply it in itself means that the law will be able to continue looking at a certain problem through the sensors of general competition law. In order to achieve this goal, it is not even necessary to choose competition law as the 'light intervention' approach.[641]

Evolution in the sense of the removal of *ex ante* regulation would therefore automatically result in the law responding to competition problems *only* by means of general competition law. An explicit political decision on that is therefore unnecessary; autopoietic law will continue to apply general competition rules in the area of electronic communications. However, absent the *ex ante* remedies available, the law may realise by means of a mechanism of self-observation that it does not possess other means to address the detected competition problems. This may finally result in a more systematic application of general competition rules to the electronic communications sector. To put it differently, competition authorities may realise that there are no *ex ante* regulators who would be more efficient in (or more keen on) addressing competition issues they run into. So far, competition litigation in telecommunications has not proven to be sufficient to generally change the behaviour of telecommunication incumbent operators.[642]

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[639] See Article 22 of the 1997 *Interconnection Directive* and Recital 39 of the *Framework Directive*.

[640] Competition law provisions have already been part of the original 1957 EEC Treaty.

[641] See e.g. Nihoul, P., Rodford, P., 2004, p. 273.

[642] In New Zealand, the liberalisation in the absence of ex ante remedies resulted in lengthy court litigation. See Walden, I. in: Walden, I., Angel, J., 2001, p. 11-12. See also Telecom Corporation of New Zealand Ltd v. Clear Communications Ltd [1995] 1 NZLR 385.

Moreover, general competition law interventions in Europe are still an exception when compared to the number of regular *ex ante* decisions on remedies on the markets susceptible to *ex ante* regulation.[643] One should therefore primarily recognise that a real 'shift' from *ex ante* regulation to competition law cannot be decided solely at the political level,[644] as the political system cannot directly control the legal system. Legally binding rules for regulators would need to be in place in order to actually make it happen in the legal proceedings, and these provisions would require an explicit lifting of *ex ante* regulation in the desired areas, for example by means of the *Commission Recommendation on relevant markets susceptible for ex ante regulation.* Except in some specific markets[645] where the Commission actually prevented the NRAs from regulating *ex ante* by means of its veto powers, there remains a huge amount of *ex ante* remedies still existing in Europe today. This shows that the law does not reflect the political agenda of de-regulation by means of a shift towards competition law. There is hardly evidence of a real shift in terms of general competition law application in communications markets.

Notwithstanding the stability of these internal legal developments, one can observe an increased degree of complexity in the environment the law seeks to regulate. For example, previous telephony offers are being progressively replaced by triple-play offers, including services such as internet and television that were not part of the traditional telecommunications regulatory regimes focusing on Universal Service and interconnection. The law will respond to such a higher degree of complexity of the environment by attempting to reduce it to its own code, which may not be possible if pre-programmed images of a simpler environment exist. In case of triple- or quadruple-play offers now widely available in the retail market, EU law, due to the

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[643] See registered notifications of measures by Member States' NRAs available at http://ec.europa.eu/information_society/policy/ecomm/implementation_enforcement/article_7/index_en.htm, 12th May 2008, compared to the overview of telecommunications competition cases handled by DG Competition available at http://ec.europa.eu/comm/competition/sectors/telecommunications/overview_en.htmlh, 22nd August 2008.

[644] See e.g. *Green paper on the convergence of the telecommunications, media and information technology sectors, and the implications for regulation, COM(97)623*, IV.1. Similarly, one should bear in mind the political motivation to act that was behind the inclusion of the fair trading condition into the BT licence despite criticisms as to the condition's legal relevance. Hall, C., Scott, C., Hood, C., 2000, p. 153 et seq.

[645] Recently, for example, the Commission prevented the Polish NRA UKE from the *ex ante* regulation of the wholesale IP traffic market.

subsidiarity of *ex ante* regulation of retail markets, is not likely to be able to impose specific *ex ante* remedies:[646] controls of basic voice telephony services were able to rely on the legacy of POTS regulation, whereas a complicated wholesale and retail markets analysis would be required in the case of more complex services.[647] However, some multi-play offers by dominant players could easily be classified as abuses of dominant position under general competition law, e.g. due to predatory pricing. Accordingly, in the absence of new *ex ante* regulation the law is likely to resort to competition rules.

However, even if the competition law approach is used, the law as an autopoietic system will always invent its own image of the economic theory supporting intervention[648] in order to make its interventions 'legal'. While competition law has traditionally been more cognitively open towards economy, sector-specific telecommunications law has only recently become open enough to be able to absorb new economic models on a regular basis. For example, in Deutsche Telekom v. the Commission, the Court of First Instance was entitled to follow the Commission in its interpretation of margin squeeze in relation to the mixture of narrowband and broadband retail services when applying general rules of Article 82 of the EC Treaty.[649] The old ONP framework contained no ground to address margin squeeze in complex relationships between wholesale and retail services, whereas the 2002 Framework now enables margin squeeze evaluation if carefully designed remedies had been previously put in place as a result of market analysis.[650] Of course, borrowing more and more concepts of *ex ante* regulation from competition law (and not from the market) seems like a Sisyphean task that makes one re-think the

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[646] See Article 17 of the 2002 *Universal Service Directive*, see Appendix. Currently, no regulation of broadband multi-play retail services is present in the EU.

[647] See ibidem. In addition, the NRA attempting this type of regulation would have to persuade the Commission in 'Article 7 proceedings'.

[648] Teubner, G., 1993, p. 79.

[649] Deutsche Telekom v. the Commission, T-271/03, 10 April 2008: "… In those circumstances, the Commission was entitled to take the view in the contested decision (recital 111) that, in order to calculate the margin squeeze, the price of wholesale access had to be compared to the weighted average of retail prices for all access services, namely analogue narrowband access, digital narrowband access (ISDN) and broadband access in the form of ADSL services …"

[650] See e.g. 'ERG Report on the Discussion on the application of margin squeeze tests to bundles, ERG (09) 07, March 2009' (2009) Available at http://erg.ec.europa.eu/doc/publications/2009/erg_09_07_report_on_the_discussion_of_the_application_of_margin_squeeze_tests_to_bundles.pdf , 24th October 2009.

relevance of *ex ante* regulation. Even in continental Europe, competition law is based on a huge body of judge-made case-law, which seems to be creating a much fuller legal image of the market situation. EU competition rules, which are based on the Treaty of Rome, have also served as a vehicle of harmonisation of Member State competition laws and are unlikely to change politically overnight. In addition, competition law has developed its own well-established images of phenomena, such as margin squeeze or predatory pricing that have been defined by case-law[651] and that do not need to be legally re-invented each time by means of coupling with the economic science.

However, while competition law possesses the ability to construct legal images of the markets that can couple well with *economic analysis*, one can hardly applaud its *economic efficiency* (in terms of speed and flexibility) when it comes to curing market defects. This has been demonstrated by the Commission's ruling in Wanadoo España v. Telefónica[652] as to broadband pricing. First, the Commission had to rely on the fact that Telefonica was regulated under *ex ante* law in order to avoid the strict criteria for access to essential facilities set by the Oscar Bronner case.[653] Second, the Commission decision in Telefonica had only been issued in April 2007, but referred to the period from 15 April 1988 to 11 May 2004. Compared to *ex ante* remedies, this is not the speed of proceedings that could be considered close to being synchronised in time with the pace of technological and business developments or even, for example, the business plans of companies wanting to invest and enter the market.[654]

Nevertheless, as noted earlier, calls for transition from *ex ante* regulation to competition law are being made equally both the US and in Europe.[655] These calls

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[651] See e.g. Deutsche Telekom v. the Commission, T-271/03, 10 April 2008.

[652] Case COMP/38.784.

[653] See Oscar Bronner v. Mediaprint, C-7/97.

[654] Luhmann warns that systems grow older together in the same time frame without having to measure time, and in this sense they age *analogously*. On the other hand, they measure their own temporal context digitally and correspondingly quickly or slowly. Accordingly, there can be no guarantee about time synchronisation and it can easily also be the case with competition law and business practice. Luhmann, N., 2004, p. 382.

[655] See Kahn, A. E., 2006-2007, p. 186 et seq. Interestingly, the position of US general competition law is quite different when it comes to the essential questions in the telecoms industry, such as the requirement for consumer harm in predation cases, which suggests that the 'transatlantic' idea of the need for a 'shift' is more ideological than legal substance-related. See e.g. Melicias, M. J., 2009.

reject the current and potentially new forms of regulation[656] and promote sticking to the antitrust law as some kind of a 'natural state' of the market. As demonstrated in Europe by the Telefónica case,[657] US competition law has also not been sufficiently expanded to potentially cover the scope of the present *ex ante* regulation under the 1996 Act. In the Trinko case,[658] the US Supreme Court held that there was no remedy for breaches of telecommunications access rules under the general competition law. This deficit is also noted by the proponents of the 'shift' to *ex post* regulation,[659] which suggests a contradictory and even ideological attitude towards competition law: as soon as one calls it *ex post* intervention, it sounds de-regulatory compared to *ex ante* measures, regardless of content. Indeed, Shelanski does quote an example of successful *ex post* intervention of the FCC in 2005 as to anti-competitive interference with the transmission between a telephone company's customers and the customers of the VoIP provider Vonage.[660] However, he does not explain how this case fundamentally differs from *ex ante* regulation, since it involves a specialised sectoral regulator with the powers to apply sector-specific rules with a high degree of discretion. In this context, one should not be surprised by Larouche's finding that European Commission policy documents for the application of competition law in telecommunications sector have less solid basis in previously decided cases,[661] which makes them look more interventionist and therefore similar to *ex ante* regulatory rules.

To conclude, systems theory can explain how competition law concepts are 'transplanted'[662] as obvious solutions for lawyers when it comes to the issues of market definition and market power. In addition, competition law concepts couple well with economic analysis, which can help the law play a trick on economy, persuading it that it is some kind of 'law of the economy'. While this may be especially appealing to anti-interventionist neo-classical politicians and economists,

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[656] E. g. net neutrality. Kahn, A. E., 2006-2007, p. 188.

[657] Case COMP/38.784.

[658] Verizon v. Trinko, 540 U.S. 398 (2004).

[659] Shelanski, H. A., 2007, p. 101.

[660] In re Madison River Commc'ns, 20 F.C.C.R. 4295 (2005). Shelanski, H. A.2007, p. 104.

[661] Larouche, P., 2000, p. 128.

[662] See Watson, A., 1993, p. 95.

it is dangerous to mistake this coupling with economic science for the actual efficiency of competition law intervention as such. This essentially wrong philosophy can result in a (highly inefficient) abuse of power by dominant players and a lack of rapid *ex ante* intervention when the latter may actually be necessary. This issue shall be dealt with in the context of local access regulation.

However, in 2002, a shift to ('transplanted' *ex post*) competition law concepts actually occurred in *ex ante* regulation, whereby the coupling of the law with the political system enabled extensive legislative changes. In particular, market definitions were based on general competition law, using the SSNIP test for substitution.[663] Moreover, a new concept of significant market power was introduced, which corresponded to the standard of dominance.[664] The concept of joint dominance has also been introduced to *ex ante* regulation. In addition, the border of *ex ante* regulation has been established on the basis of the Commission-set 'three criteria' test, which includes the criterion of "insufficiency of competition law".[665]

Though these are all autonomous developments of the law, they are largely a reflexive response to the increased complexity of the economy and technology of communications. Whereas interconnection for the purposes of exchanging TDM voice traffic has been traditionally considered a "cornerstone of competition"[666], an increasing number of important competition issues have emerged in relation to high-speed internet. Local infrastructure unbundling, bitstream access, IP interconnection, and access to fibre can more easily and quickly be addressed if there is regulatory flexibility that allows for the regulation of new relevant markets. However, one should not mistakenly conclude that this flexibility is due to the law's need to increase the *efficiency* of regulation. Instead, one can show that the new and more flexible system is a response to the *complexity* of the economic and technological

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[663] See e.g. *Commission guidelines on market analysis and the assessment of significant market power under the Community regulatory framework for electronic communications networks and services. 11 July 2002, 2002/C, OJ 165/03*.

[664] See e.g. Whish, R. , 2009, p. 25 et seq.

[665] See *Commission Recommendation 2003/311/EC on relevant product and service markets within the electronic communications sector susceptible to ex ante regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services*.

[666] Melody W. H. in: Melody, W. H., 1997, p. 53-56.

environment. In order to promote itself in this new environment by means of juridifying it, the law had to offer its most flexible solutions. It remains for the judgment of the economists to evaluate whether such flexible regulation has proven to be efficient in specific cases.

When dealing with the complexity and rapid change of the environment that is demonstrated by the shift to IP-based networks and convergent services, the law will, by means of observation of the environment and self-observation, discover that its rigid concepts cannot be applied to certain new phenomena. Furthermore, the lawyers will, by studying possible replacements for phenomena in the environment, such as convergence, discover that the development of alternative abstract concepts in *ex ante* regulation that would be capable of tackling new competition problems is becoming increasingly difficult, due to pace of technological and business changes. Accordingly, the application of general competition law-based rules and principles that apply to all activities that can be deemed 'economic' is the most immediate universal reaction the law can provide to be able to 'fix' *ex ante* regulation under the conditions of rapid changes in the environment.[667]

Again, in case of the application of competition law-based concepts in *ex ante* regulation, one can also mistake their autopoietic flexibility and potential reflexivity to the market situation for the ability of the law to actually remedy market failures. The resort to general competition rules is primarily a re-statement of the EU law's well-established 'sticky' principles. It does not mean that the law has become 'economic', and can therefore directly and efficiently address all competition issues. However, as the case of local access regulation to be presented below shows, it is not the lack of sensors for economic issues, but rather the autopoietic idea of the 'inevitable' development towards effectively competitive markets that may prevent the law from finding *efficient* long-term regulatory solutions.

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[667] EC competition law applies to any 'undertaking', which means any entity engaged in an *economic* activity. See e.g. Hoefner and Elser v. Macroton GmbH [1991] ECR I-1979. In addition, competition law with its long tradition may actually be more likely to yield effects in the economic system, which is, though regularly coupled with law, primarily based on property and not on legal rules. Deakin, S., 2002, p. 39-40. One can, however, presume that the prohibition of cartels and of the abuse of dominant position that have resulted in severe monetary and structural sanctions in the past are more likely to be part of the economic system's internal regulation than, say detailed rules on VoIP interconnection.

5.4 De-regulatory lock-in and politicisation of NGA regulation

Local access regulation has been introduced to the EU law by means of the 2000 *Regulation on unbundled access to the local loop* adopted by the European Parliament and the Council of Ministers. However, already in 2002, it has been merged with the general concept of *ex ante* regulation of selected relevant markets. Accordingly, the coupling of law with political programme to dismantle the legacy of local access monopolies has been replaced by the coupling with economic analysis: the law was no longer supposed to regulate a historical bottleneck, but rather just another relevant market that was not yet effectively competitive. This may sound like a good starting point for *efficient* regulation: the market will only be regulated as long as it is necessary, which prevents inefficient over-regulation. However, while coupling with economic analysis takes place at the time when the decision whether to regulate or not is made, the idea that remedies should only be in place for a strictly limited period of time until effective competition emerges creates an understanding of the economy, within law, which assumes that communications markets as a rule develop towards effective competition. This may prevent or obstruct the imposition of long-term regulatory solutions, where the latter prove to be necessary in order to ensure economically efficient use of facilities, say by means of equivalent access. Such a built-in self-destruction mechanism of *ex ante* regulatory law has created an autopoietic lock-in, whereby the law no longer seeks permanent solutions for sharing the legacy infrastructures,[668] but rather temporary solutions until "the competition arrives",[669] no matter how unrealistic this might be when it comes to trenching and pulling multiple cables to cover essentially all homes and business premises by a parallel, brand new network.[670]

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[668] See Recital 1 o f the 2002 *Framework Directive*: "The current regulatory framework for telecommunications has been successful in creating the conditions for effective competition in the telecommunications sector during the transition from monopoly to full competition." This view has been enhanced in Article 8 of the 2009 *Framework Directive*: "imposing ex-ante regulatory obligations only where there is no effective and sustainable competition and relaxing or lifting such obligations *as soon as* that condition is fulfilled."

[669] Compare 'Regulation of British Telecommunications' Profitability' (1983) Report by Professor Stephen C Littlechild to the Secretary of State for Industry, London, HMSO.

[670] This has been demonstrated by the practical experience of the UK duopoly regulation, which never resulted in full duplication of access networks by the second market entrant.

More importantly, while the use of competition law principles generally results in copper and fibre access infrastructures being part of the same 'relevant market',[671] broad discretion enjoyed by the NRAs in respect of choosing the remedies means that the political system can rather easily couple with legal regulation, protecting the investments of the national incumbent operators by imposing weaker remedies in respect of fibre unbundling.[672] While this can be perceived as a deficiency of the law from the perspective of the economic system, it does not stem from the law's own unawareness of the permanent infrastructure *bottleneck* problem: competition law has developed the concept of 'essential facilities', which does couple with economic analysis.[673] Instead, it stems from the problem of the law being over-politicised, i.e. captured by the political system in order to serve the interests of the latter,[674] either at

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[671] See Market 4 of the 'Recommendation on relevant markets and e.g. Case FI/2008/0839: Wholesale (physical) network infrastructure access (including shared or fully unbundled access) at a fixed location in Finland, Comments pursuant to Article 7(3) of Directive 2002/21/EC' (2008) Available at http://circa.europa.eu/Public/irc/infso/ecctf/library?l=/suomifinland/registeredsnotifications/fi20080839_1/fi-2008-0839_enpdf/_EN_1.0_&a=d, 21st January 2009.

[672] See 'Case PT/2008/0850: Wholesale (physical) network infrastructure access (including shared or fully unbundled access) at a fixed location; Case PT/2008/0851: Wholesale broadband access; Comments pursuant to Article 7(3) of Directive 2002/21/EC1' (2009) Available at http://circa.europa.eu/Public/irc/infso/ecctf/library?l=/portugal/registeredsnotifications/pt20080850-851/pt-2008-0850-0851/_EN_1.0_&a=d, 21st January 2009.

[673] See Oscar Bronner v. Mediaprint, C-7/97, at 45: "It should be emphasised in that respect that, in order to demonstrate that the creation of such a system is not a realistic potential alternative and that access to the existing system is therefore indispensable, it is not enough to argue that it is not economically viable by reason of the small circulation of the daily newspaper or newspapers to be distributed. For such access to be capable of being regarded as indispensable, it would be necessary at the very least to establish, as the Advocate General has pointed out at point 68 of his Opinion, that it is not economically viable to create a second home-delivery scheme for the distribution of daily newspapers with a circulation comparable to that of the daily newspapers distributed by the existing scheme."

[674] Over-socialization stands at one end of the Teubner's 'regulatory trilemma', which explains regulatory failures as a relationship between the law and the environment, in this case the political system. Teubner, G., 1988, p. 311.According to the trilemma, there are three ways legal regulation can fail:

- the regulated system reacts by not reacting, i.e. the law creates no change in behaviour outside its own operations. For example, market liberalisation legislation may be enacted but the regulator does not act and the incumbent operator does not respect it;
- over-legalization of society, i.e. the law influences the regulated system so strongly that self-reproduction of the latter is endangered. Inhibiting investment by means of over-regulation or uncertainty as to access obligations is a typical example;
- over-socialization of law, i.e. the law is captured by politics or the regulated subsystem, say economy, and is 'politicized' or 'economized'. For example, as Luhmann warns, law may not be able to develop its own doctrine due to constant changes in legislative framework and the burden of results expected from the politics. Luhmann, N. in Teubner, G.-ed., 1988, *Dilemmas of Law in the Welfare State*, Gruyter, New York, Berlin, p. 124-5.

the phase of regulatory decision-making,[675] or possibly at the level of the legislative process.[676]

Before dealing with specific issues of NGA networks regulation, one should look at the underlying rules of the *EU Regulatory Framework* that enable or prevent the regulation of NGAs. Three sets of rules exist in parallel:

- the rules on defining and analysing the relevant markets and setting the regulatory remedies;
- the rules on symmetric access regulation; and
- general principles of regulatory activity.[677]

As indicated above, access to local access networks has first been mandated under the 2000 *EC Regulation on unbundled access to the local loop* and later by the regulatory measures issued on the basis of the 2003 *Recommendation on relevant markets*, which implied the continuity of wholesale access to the copper (metallic) local loops. In 2007 access networks were defined by the European Commission in a technology-neutral fashion, i.e. without regard to the type of physical infrastructure used.[678] The broader definition of 'physical access infrastructure' provides for an easier inclusion into the regulated market of NGAs, i.e. networks based wholly or partly on fibre. Should an operator have the SMP status on this market, the NRAs are empowered to impose on said operator various obligations, including access to facilities, non-discrimination, transparency and certain pricing rules, which can include access remedies to the SMP operator's NGA.[679]

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[675] See politically pragmatic exclusion of fibre unbundling from the remedies in 'Case PT/2008/0850: Wholesale (physical) network infrastructure access (including shared or fully unbundled access) at a fixed location; Case PT/2008/0851: Wholesale broadband access; Comments pursuant to Article 7(3) of Directive 2002/21/EC1' (2009) Available at http://circa.europa.eu/Public/irc/infso/ecctf/library?l=/portugal/registeredsnotifications/pt20080850-851/pt-2008-0850-0851/_EN_1.0_&a=d, 21st January 2009.

[676] In addition to the ideas of the MEPs expressed in the 'Trautmann Report', an extreme example from the communications law are the German 'regulatory holidays', whereby mandate is given to the regulator not to regulate certain new access technologies even though the requirements of the EU Framework have been met.§ 9a of the German TKG 2004, see Appendix.

[677] See the 2002 *Framework Directive*.

[678] See Annex to the 2007 *Recommendation on Relevant Markets*.

[679] See *Article* 8 of the 2002 *Access Directive*.

In addition, access to local access networks can also be mandated as a remedy to non-SMP operators, provided that certain criteria are met: Article 12 of the 2002 *Framework Directive* deals with co-location and facility sharing, stating that, in particular where undertakings are deprived of access to viable alternatives because of the need to protect the environment, public health, public security or to meet town and country planning objectives, Member States could impose the sharing of facilities or property (including physical co-location) on an undertaking operating an electronic communications network or take measures to facilitate the coordination of public works only after an appropriate period of public consultation, during which all interested parties must be given the opportunity to express their views[680]. Such sharing or coordination arrangements could include rules for apportioning the costs of facility or property sharing. This type of remedy can act as a symmetrical remedy, i.e. can be applicable to both SMP and non-SMP operators, either simultaneously or unilaterally. In 2008 a political agreement was reached to broaden the potential for imposing this obligation at the EU level. Article 12 (1) of the *Framework Directive* has been amended accordingly: "Where an undertaking providing electronic communications networks has the right under national legislation to install facilities on, over or under public or private property, or may take advantage of a procedure for the expropriation or use of property, national regulatory authorities shall, taking full account of the principle of proportionality, be able to impose the sharing of such facilities or property, including buildings, entries to buildings, building wiring, masts, antennae, towers and other supporting constructions, ducts, conduits, manholes, cabinets."[681] . Although this power of the NRAs still requires an appropriate public procedure, it comes closer to the general rule of the US *Telecommunications Act 1996*, which imposes access on all 'utilities', which includes local incumbent operators, to network elements such as ducts, conduits and poles on a non-discriminatory basis.[682]

As to the third set of rules, they refer to the general regulatory policy goals and can be found in the general guidelines to the NRAs. Article 8(2)(c) of the 2002 *Framework Directive* explicitly states that NRAs shall encourage efficient

[680] See Article 12 of the 2002 *Framework Directive*.

[681] Article 12 (1) of the 2009 *Framework Directive*.

[682] Lee, K.; Prime, J. in: Walden, I.; Angel, J., 2005, p. 543-4.

investment in infrastructure. However, this goal only comes in as part of the general function of NRAs to promote competition. Accordingly, the 2002 Framework does not encourage infrastructure investment that would hinder or distort competition. However, there has been a change in the 2008 political agreement on the new Framework Directive, whereby 'investment risk' has appeared as a specific category, suggesting that it can be used as a reason not to impose access or cost accounting obligations.[683] These changes indicate a shift from a general pro-competitive policy to a more pragmatic approach in favour of incumbent operators. However, they do not change the general principle of setting the remedies based on (economic) market analysis.

Two main observations can be made about the current EU Framework and the transition to NGA. First, unlike the old ONP Framework, where local loop unbundling was a clear policy decision legally implemented by a Community Regulation, neither the 2002 Framework nor its 2007 – 2009 reform contained a comparable general decision on NGA. Instead, the 2002 Framework treats access to local infrastructure as one of the markets that may or may not be susceptible for *ex ante* regulation, disregarding the legacy element that was present in the 2000 Regulation.[684] The later document explicitly referred to former monopoly operators who "rolled out their metallic local access infrastructures over significant periods of time protected by exclusive rights and were able to fund investment costs through monopoly rents,"[685] while expressly excluding "new loops with high capacity optical

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[683] *Proposal for a Directive of the European Parliament and of the Council amending Directives 2002/21/EC on a common regulatory framework for electronic communications networks and services, 2002/19/EC on access to and interconnection of electronic communications networks and services, and 2002/20/EC on the authorisation of electronic communications networks and services - Political agreement*, Article 8 (4a): "The national regulatory authorities shall, in pursuit of the policy objectives referred to in paragraphs 2, 3 and 4, apply objective, transparent, non-discriminatory and proportionate regulatory principles by inter alia: […] (d) promoting efficient investment and innovation in new and enhanced infrastructures including by taking into account investment risks." See the final version of Article 8(5d) of the 2009 *Framework Directive*: "promoting efficient investment and innovation in new and enhanced infrastructures, including by ensuring that any access obligation takes appropriate account of the risk incurred by the investing undertakings and by permitting various cooperative arrangements between investors and parties seeking access to diversify the risk of investment, whilst ensuring that competition in the market and the principle of non discrimination are preserved."

[684] See Recital 6 of the 2000 *Regulation on unbundled access to the local loop*: "It would not be economically viable for new entrants to duplicate the incumbent's metallic local access infrastructure in its entirety within a reasonable time."

[685] See ibidem, Recital 3.

fibre directly to major users" as a specific market that is developing under competitive conditions.[686] Second, a policy decision as to unbundled access to NGAs would not even be possible at the level of the 2002 Framework,[687] because this framework sees itself as a transitory regime to a world where e*x ante* regulation would no longer be necessary and *ex post* competition law would suffice to solve market problems.[688]

Despite taking note of the economic conditions in the 2000 Regulation recitals,[689] one should recognise that this idea of transition is the legal framework's own construction of the environment. Accordingly, despite economic arguments in its favour, the premise that *ex ante* regulation could be removed in the future is internal to the legal system that keeps checking by means of market analyses if full competition is already there.[690] Recital 27 of the 2002 *Framework Directive* states that it is essential that *ex ante* regulatory obligations should only be imposed where there is not effective competition, i.e. in markets where there are one or more undertakings with significant market power, and where national and Community competition law remedies are not sufficient to address the problem. The same Recital further refers to regular testing of 'durability' of the lack of effective competition in a 'rapidly developing market'. It is therefore the law's internal assumption, coupled with the political programme from 2002, that the market is progressively 'evolving' towards effective competition and that the legal procedure should primarily be about the pace of this development. As also noted by Walden, one of the main objectives of the 2002 regime was to move from *ex ante* regulatory intervention towards *ex post* reactive regulation, whereby traditional market mechanisms would control anti-competitive practices, with competition law rules operating as a backstop against abusive situations.[691] The Framework therefore sees the 'choice' for customers as a

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[686] See ibidem, Recital 5.

[687] Including its 2009 revision, which left the main principles of imposing remedies essentially the same.

[688] See Recital 25 of the 2002 *Framework Directive*: "There is a need for *ex ante* obligations in certain circumstances in order to ensure the development of a competitive market."

[689] See above.

[690] See Article 16 (1) of the 2002 *Framework Directive*: "As soon as possible after the adoption of the recommendation or any updating thereof, national regulatory authorities shall carry out an analysis of the relevant markets ..."

[691] Walden, I. in: Walden, I., Angel, J., 2005, p. 148.

'natural' market condition on all markets for electronic communications networks and services, and only allows intervention following a strictly prescribed procedure that has shown the choice to be impaired.[692] This is in line with the Commission's expectations that the Framework will roll back *ex ante* regulation as competition becomes effective.[693] This self-destruction mechanism of the NRF is not only a general principle, but is actually applied in the Commission legal practice: the 2007 Recommendation has cut the number of relevant markets susceptible for *ex ante* regulation from 18 to only 7.[694]

Wide-spread roll out of NGAs only took place after 2006,[695] which makes it a development not clearly foreseen in 2002. Therefore, it may simply be that the law's own concept of the markets' 'natural' development towards full competition is no longer suitable to deal with fibre-based NGAs[696] that could, despite all the expectations of the NRF, prove to be a lasting natural monopoly.[697] Of course, as the EU Framework is flexible, its provisions are unlikely to prevent good short term solutions based on regulatory analysis. If there are no prospects of effective competition in high-speed infrastructures until the next market analysis is carried out by the relevant NRA,[698] various access remedies can be applied to NGAs. However, as market remedies need to be tested on a regular basis,[699] the Framework prevents long-term policy decisions that would create a predictable set of regulatory rules beyond the next round of market analysis (e.g. in terms of wholesale access guarantees and affordable access pricing), which may result in short-term speculation

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[692] See Nihoul, P., Rodford, P., 2004, p. 216 and 218.

[693] Jones, K., Carlin, F. in: Scherer, J., 2005, p. 101.

[694] Compare the 2003 and 2007 Commission Recommendations on relevant markets.

[695]For developments see e.g. 'Broadband access in the EU: situation at 1 July 2008, COCOM08-41 FINAL' (2008) Available at http://ec.europa.eu/information_society/policy/ecomm/doc/implementation_enforcement/broadband_access/Broadband_data_july_08.pdf, 15th August 2009.

[696] For an overview of regulatory responses to NGA investment, see Selvadurai, N., Salter, B., Town, G., 1998.

[697] Findings on this issue are far from clear. Crocioni, for example, argues that, due to specific NGN architecture, it may be difficult to draw a dividing line between monopoly and non-monopoly elements, questioning law's ability to tackle the monopoly problem by effectively separating them. Crocioni, P., 2008.

[698] See Article 16 of the *Framework Directive*.

[699] Ibidem.

by the incumbent operators and hamper investments that require a longer time-frame in order to be profitable .[700]

Going back to the policy of local loop unbundling, which required Commission intervention in the form of Communication, Recommendation and later Regulation proposal in addition to the Oscar Bronner[701] 'essential facilities' rules, it is obvious that politics had to set the direction where legal regulation of (hardly replicable) fixed local access networks should go.[702] Even though the proposals made by the Commission were also based on the finding that copper local loops were built partly by means of the public funding of state monopolies of the past,[703] Naftel and Spiwak warn that this may be irrelevant for the decision whether to mandate access by law today.[704] The Commission's actions were therefore clearly political, with the goal of fostering local competition, and not simply a reference to the Advocate General Jacobs' opinion in Oscar Bronner issued at the time.[705] In the absence of said historical justification, the Commission's economic argument that there are no 'technical and commercial viable alternatives' could also apply to, say newly laid fibre-based NGA networks built by the incumbents, where they are put in place of the existing copper-based networks.[706]

Indeed, economic reasons for local access regulation are more about economic bottlenecks than about the past 'unjust' advantage of the incumbent operators. Nihoul and Rodford list several arguments that support permanent local loop unbundling even if parallel infrastructures exist. They argue that, even if the limits[707] of competition by means of cable TV networks were all removed, having only one

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[700] While the 2009 NRF reform foresees 'functional separation' of SMP operators as a remedy, it places it alongside other 'temporary' *ex ante* remedies, despite a huge cost- and organizational burden that could only be justified as a long-term commitment. See e.g. Waters, P., Yuen, A., 2006.

[701] Oscar Bronner v. Mediaprint, C-7/97.

[702] See Naftel, M., Spiwak, L. J., 2000, p. 312 et seq.

[703] See also the opinion of Advocate General Jacobs in Oscar Bronner v. Mediaprint, D-7/97.

[704] Naftel, M., Spiwak, L. J., 2000, p. 313.

[705] Opinion in case C-7/97.

[706] See *Communication from the Commission: Unbundled Access to the Local Loop, Brussels, 26.4.2000 COM(2000) 237final.*

[707] Insufficient regional penetration, limited broadband capacity and sometimes ownership by the same entity as PSTN. Nihoul, P., Rodford, P., 2004, p. 199-200.

parallel fixed network would result in a duopoly and therefore a likely collusion between the two undertakings involved.[708] However, if the latter economic argument was equally adopted by law in the case of newly build NGAs, it would conflict with another political decision translated into law, i.e. to foster full infrastructure network competition. In the light of the duopoly (or oligopoly) argument, the latter no longer seems to be a viable option. As a political goal, full NGA infrastructure competition seems to be further based on the confusion of liberalisation and regulation,[709] as the mere right to invest in new access networks and obtain a certain market share does not mean that NGA networks will be economically replicable in their entirety. As Jones and Carlin argue, there is no necessary contradiction between access-based and facilities-based competition, and 'liberalisation' would never take place without access obligations.[710] Moreover, the idea that developments in technology would progressively eliminate the need for *ex ante* intervention[711] is very questionable, bearing in mind, for example, the potential capacity of FTTH networks compared to, say wireless broadband networks, including, say the LTE networks. Even the construction of NGAs therefore revives the fears already present in 2002 that the rules of the Directives were never designed in a way that would ever allow the local loop (and associated local infrastructures, such as ducts) to recover from the historical natural monopoly.[712]

Whereas these examples show a potential discrepancy between the law's internal programme of de-regulation and the actual economic needs, they also reveal the limits of the law and the role politics plays in setting the course for the legal

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[708] Ibidem, p. 199. Contrary to that, Knieps and Zenhausern argue against the expansion of access regulation to any new investments, any active products, or even ducts if alternative networks exist. Knieps, G., Zenhausern, P., 2010. However, despite their praise for economic reasoning, they seem to mistake the mere technological ability to duplicate the network for 'effective competition', without any reference to actual costs of such duplication, probably also due to technological misunderstandings, as they compare the effort of pulling fibre cables with that of collocating DSLAMs and claim that FTTH can be seen as a requirement for VDSL.

[709] See e.g. Stehmann, O., 1995, p. 291 et seq., an early text on the benefits of full network competition in Europe, where the overall economic benefits of networks liberalisation are quoted. However correct this may be, it does say much about the actual replicability of access networks and the potential need for permanent regulation.

[710] Jones, K., Carlin, F. in: Scherer, J., 2005, p. 104.

[711] Ibidem.

[712] Dupuis-Toubol, F., 2002, p. 3.

framework, no matter how 'proceduralized' it becomes. Economic regulation[713] should ideally be set by the legislative framework and not during the NRAs' legal proceedings. However, practical examples show that, while EU politics lack vision as to any major changes of the NRF access philosophy, the EU communications law gives sufficient room to political interference by the Commission and the NRAs driven by, say 'national interests' that may correspond to European national incumbent operators' desire to escape regulation. In a similar fashion, European incumbent operators would earlier invoke the so-called 'essential requirements' of the ONP Framework,[714] quoting technology-related arguments in order to block network access.

In practice, the Commission can, by means of its veto powers, largely control the inclusion of NGAs into the regulated markets. By introducing a technology-neutral definition of the 'physical access infrastructure' market in 2007, it has indicated that NGAs should in principle be included in the former 'copper local loop' market. This view has been reflected in several market analyses carried out in 2008, e.g. by the Finish, the Dutch and the French NRA.[715] The NRAs may, on the other hand, decide not to introduce mandatory access to fibre or to introduce more lenient remedies tailored to fibre, even though NGA has been declared to be part of the relevant regulated market. This was the case, for example, in Finland and Portugal, despite the Commission's warnings that mandatory access to fibre should be considered on the basis of the analysis,[716] or that the same remedies should in principle apply to

[713] See Majone, G. in: Hayward, J., Menon, A., 2003, p. 311.

[714] See Walden, I., 2009, p. 179-181.

[715] See http://ec.europa.eu/information_society/policy/ecomm/implementation_enforcement/article_7/index_en.htm, 21st January 2009. In particular, see OPTA analysis available at http://circa.europa.eu/Public/irc/infso/ecctf/library?l=/nederland/registeredsnotifications/nl20080826/nl-2008-0826-0827/_EN_1.0_&a=d, 21st January 2009.

[716] "… the Commission notes that ANACOM does not impose any obligations on fibre at this stage. […] However, the Commission draws attention to the fact that fibre-based access products are already in the market in Portugal, and that PT Group is already in the process of rolling out fibre (at least for the purpose of carrying out trials). It is also important to note that fibre roll-outs may significantly change the competitive landscape, especially if MDFs will be closed down. Even as early as in the phase of announcements and planning, these developments may be liable for halting competitive tendencies. This is especially relevant in the Portuguese situation where the competitiveness of the retail broadband market and the WBA market are – to a large extent – conditioned by the availability of sufficient inputs in the LLU market. Should wholesale inputs in market 4 necessary to compete on the retail market become unavailable, the competitive tendencies might well be reversed. In the light of the above, the Commission invites ANACOM to impose remedies on fibre access products as

copper- and fibre-based infrastructures.[717] Accordingly, there has been, despite harmonising efforts by the Commission to pursue technological neutrality, sufficient discretion left to the NRAs as to granting access to fibre-based access infrastructures.[718] This discretion was obviously used by some NRAs to foster their own political agenda[719] of facilitating greater NGA deployment by incumbent operators at the cost of stronger service competition.

On the other hand, the 2002 legal framework itself that was based on competition law and specific principles of encouraging competition could be, without major changes politically bent in a way that would eventually make it harder to regulate access to new infrastructures. For example, the *European Parliament Report* prepared by the French Socialist MEP Ms Catherine Trautmann proposed several

appropriate following the national NGA consultation. …" See 'Case PT/2008/0850: Wholesale (physical) network infrastructure access (including shared or fully unbundled access) at a fixed location; Case PT/2008/0851: Wholesale broadband access; Comments pursuant to Article 7(3) of Directive 2002/21/EC' (2009) Available at http://circa.europa.eu/Public/irc/infso/ecctf/library?l=/portugal/registeredsnotifications/pt20080850-851/pt-2008-0850-0851/_EN_1.0_&a=d, 21st January 2009.

[717] "The Commission takes note that FICORA proposes to differentiate fibre from metallic local loops in respect of the cost orientation obligation, although it considers both forms of access as part of the same relevant market. […] According to the Commission Notice on the definition of relevant markets, the objective of defining a market in both its product and geographic dimension is to identify those actual competitors of the undertakings involved that are capable of constraining those undertakings' behaviour and of preventing them from behaving independently of effective competitive pressure. Furthermore, […] obligations imposed shall be based on the nature of the problem identified, proportionate and justified in light of the objectives […] of the Framework Directive, including the principle that regulation should be technology neutral. Therefore, given that competitive conditions inform the nature of the competition problems identified, any deviation consisting in addressing that competition problem with differentiated remedies within a defined relevant market needs to be carefully substantiated. In this regard, the Commission notes that according to FICORA all major operators have been rolling out fibre networks to end-users with increasing speeds since 2006. Investments in fibre networks are significantly above those of metallic or other types of networks. Although the overall number of fibre-loops is still low, these tendencies seem to suggest that this situation is changing with an accelerating pace. Thus, the Commission […] invites FICORA to ensure that access measures are supplemented by appropriate costing remedies and to consider imposing similar remedies on fibre loops as proposed for copper loops". 'Case FI/2008/0839: Wholesale (physical) network infrastructure access (including shared or fully unbundled access) at a fixed location in Finland, Comments pursuant to Article 7(3) of Directive 2002/21/EC' (2008) Available at http://circa.europa.eu/Public/irc/infso/ecctf/library?l=/suomifinland/registeredsnotifications/fi20080839_1/fi-2008-0839_enpdf/_EN_1.0_&a=d, 21st January 2009.

[718] For specific UK NGA regulation approach in the context of functional separation imposed on BT for 'traditional' broadband, see Brisby, P., 2011.

[719] According to Luhmann, national regulators still belong to public administration as organizations of the political system and are, absent specific legal instructions, therefore likely to pursue domestic political agenda. Luhmann, N., 2004, p. 374. For example, in his speech at the NEREC Regulatory Conference in September 2009 in Madrid, Mr Reinaldo Rodriguez, President of the Spanish NRA CMT expressed his worry about regulating new infrastructures to the cost of investment by the national operator Telefonica.

seemingly minor modifications of access principles in a way that would give priority to the need for investment over the need for competition, suggesting that the incumbent operators' investments should be 'protected' from regulatory remedies.[720] In this respect, coupling with economic analysis in the process of SMP designation might not be all that relevant, as protectionism could be sustained at the level of market remedies.

A similar approach, though at a national level, can be found in the NGA regulation in Germany, where the parliament decided to grant the so-called 'regulatory holidays' to Deutsche Telekom's new technological developments in the access network. The provisions of the German communications legislation that were later successfully challenged by the Commission[721] enabled a general exemption as to Deutsche Telekom's VDSL (i.e. copper-fibre combined NGA) and other potential NGA networks from competition, thereby severely limiting the room for *ex ante* regulation.[722] However, while a decision not to regulate the NGAs could be part of the NRA procedure, the European Court of Justice ruled that the principle of non-regulation of new markets, which might include NGA, provided for in Paragraph 9a(1) of the *German Telecommunications Act* (TKG) limited the discretion of the

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[720] In the Article 12(2) of the *Access Directive* conditions for the imposition of access obligations, the Report ,instead of the wording "(c) the initial investment by the facility owner, bearing in mind the risks involved in making the investment", proposed the text "(c) the initial investment by the facility owner, bearing in mind the technical and economic viability of sharing this investment with other operators seeking access and the risks involved in making the investment, including its adequate sharing among the operators benefiting from access to these new facilities". This places a much larger burden upon NRAs who want to justify the imposition of remedies or regulate prices. The Report that mentions 'investment' in NGNs in several places, while neglecting service-based competition over these networks also suggests that the central objective of harmonised regulatory accounting in the EU should be the calculation of 'investment risk'. 'Draft Report on the proposal for a directive of the European Parliament and of the Council amending Directive 2002/21/EC on a common regulatory framework for electronic communications networks and services, Directive 2002/19/EC on access to, and interconnection of, electronic communications networks and services, and Directive 2002/20/EC on the authorisation of electronic communications networks and services, (COM(2007)0697 – C6-0427/2007 – 2007/0247(COD)), Committee on Industry, Research and Energy, 23rd April 2008' (2008) Available at http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//NONSGML+COMPARL+PE-398.542+02+DOC+PDF+V0//EN&language=EN , 25th June 2009.

[721] See 'Commission launches 'fast track' infringement proceedings against Germany for 'regulatory holidays' for Deutsche Telekom, 27 February 2007' (2007) Available at http://europa.eu/rapid/pressReleasesAction.do?reference=IP/07/237&format=HTML&aged=1&language=EN&guiLanguage=en, 30th March 2011.

[722] See ,§ 9a TKG 2004 Neue Märkte' Available at http://www.jusline.de/index.php?cpid=f92f99b766343e040d46fcd6b03d3ee8&lawid=28&paid=9a, 30th March 2011, see Appendix. See also 'Infringement proceedings against Germany for granting 'regulatory holidays' (2007) Available at http://www.legal500.com/developments/2954, 24th January 2009.

NRAs under the *Framework Directive* to define and analyse the markets; the limitation of the NRA's discretion to submit 'new markets' to a definition and to a market analysis therefore necessarily involved a failure to comply with EU law.[723]

Nevertheless, the Commission itself showed a willingness to adapt the law to its own political agenda in its draft *Commission Recommendation on NGA*. The document, different versions of which were subject to a public consultation in autumn 2008 and again before summer 2009, departed in several ways from the established competition law principles as the grounds for *ex ante* regulation. The latter version of the draft, the preparation of which corresponded to the Chairman of the Commission Mr Baroso's re-election activities,[724] included the instructions for NRAs not to regulate certain market situations by listing "conditions under which the absence of SMP would normally be indicated".[725] As these conditions were describing co-investment and joint venture schemes, it came as a surprise that they did not, according to the Commission's opinion, instead of being used as indicators of a competitive market, raise concerns over potential joint dominance, which is a concept of both the 2002 Framework[726] and general competition law.[727]

The above examples show how the law can be 'socialised' in order to serve the daily political goals or economic interests of individual operators. In this respect, even a regular coupling of the law with economic analysis may not prove to be a sufficient safeguard. Looking at the *Recommendation on Relevant Markets* as a not only a legal, but also a political document, it is questionable how far European *ex ante* regulation is actually based on economic findings. As McCormack points out, there is an underlying tension between the requirement that NRAs define the markets

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[723] Commission v. Germany, Case C-424/07, at. 106.

[724] Mr Baroso's was faced with German pressures to legalise certain forms of 'regulatory holidays' at the EU level, while Member States' governments' interests were quoted by the Commission's officials as the reason for the draft Recommendation.

[725] 'Draft Commission Recommendation on regulated access to Next Generation Access Networks (NGA), Annex III,' (2009) Available at http://ec.europa.eu/information_society/policy/ecomm/doc/library/public_consult/nga_2/090611_nga_recommendation_spc.pdf , 20th June 2009, see Appendix.

[726] See the 2002 *Framework Directive*, Annex II, see Appendix.

[727] See e.g. Bertelsmannn AG and others, Case C-413/06 P, Judgement of the Court, 10th July 2008, Airtours plc v. Commission of the European Communities, Case T-342/99, Judgement of the Court of First Instance, 6th June 2002.

according to general competition law, and the requirement that they must take 'utmost account' of the markets defined in the Recommendation by the Commission.[728] This is a further proof of the autopoiesis of law: even if the law tries to rely on other social systems, it only does so within its own perception of these systems.

It would, however, be wrong to imply that coupling with the economic system makes the law less legal and more 'economic'. As pointed out by Luhmann, in order for modern economy to function, the law must not belong to the type of goods or services that can be bought in the economic system.[729] Equally, economic arguments should not be mistaken for political arguments using economic rhetoric. For example, giving 'infrastructure investment' priority over 'competition', as was the case with the emerging 2002 Framework reform in 2008[730] is a political and not an economic decision. The requirement of the NRAs to perform a market analysis prior to introducing regulatory measures means that the law relies on its perception of a phenomenon outside its sphere in order to decide whether the introduction of a certain measure in a certain moment is legal or illegal. Of course, the analysis must reach the results that can be detected and used by the legal system. For this purpose, it must fulfil the *legal* criteria set by the legal system, such as the criteria of the *Commission Guidelines on market analysis and the assessment of significant market power under the Community regulatory framework for electronic communications networks and services*.[731] These include the use of the SSNIP test that measures the reactions of buyers to a permanent price increase of 5 to 10% , supply- and demand-side substitution, or the use of market share and additional criteria to determine whether an operator holds a dominant position.[732] Accordingly, it is a legal text that says which otherwise economic criteria should be taken into account by the analysis. Of course, this also means that an 'economic' analysis will as its starting point use

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[728] McCormack, E. in: Walden, I., Angel, J., 2005, p. 494.

[729] Luhmann, N., 2004, p. 391.

[730] See above.

[731] 11 July 2002, 2002/C, OJ 165/03.

[732] See *Commission guidelines on market analysis and the assessment of significant market power under the Community regulatory framework for electronic communications networks and services*, 11 July 2002, 2002/C, OJ 165/03, see Appendix.

legally preset criteria, and not some other economically relevant criteria. [733] While this may seem like restraining the economic science, it can also contribute to legal certainty by means of preventing the legal rephrasing of quasi-economic political criteria, such as the 'TELUS proposal', which suggested, without any reference to the state of wholesale competition,[734] that a certain retail market share threshold for alternative operators such as 5% should be used as the main criterion of withdrawing wholesale regulation.[735]

The remedies set by NRAs, however, are not necessarily based on detailed economic analysis; full discretion as to possible remedies of the 2002 *Access Directive* applies. According to Article 8(2) of the 2002 *Access Directive*, where an operator is designated as having significant market power on a specific market as a result of a market analysis, national regulatory authorities are to impose on them one or more of the obligations: transparency, non-discrimination, accounting separation, access to, and use of, specific network facilities, and price control and cost accounting. If other remedies are in question, there is a further procedural safeguard: a request to the Commission and the Commission's approval are required.[736] However, the same procedural safeguard does not apply to the quoted 'toolbox' of remedies.[737] In either case, this safeguard would be a purely legal and procedural one. No detailed economic analysis is required in respect of remedies, as long as general legal rules for applying discretion in the relevant Member State are met.[738]

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[733] Commission guidelines are not mandatory law and therefore one cannot predict the full extent of their application. However, as the Commission has veto powers as to market analyses under Article 7 of the 2002 *Framework* Directive, the application of the guidelines can be, despite their 'soft' nature, de facto enforced.

[734] Goodrich warns that that the notion of 'economic arguments', when used in the legal discourse, may mean a selective set of (neo-liberal) arguments and not the entirety of arguments economic analysis could actually provide. Goordich, P., 1987, p. 202-203. If such limited reasoning becomes part of case-law, this means that it will be the law that limits the use of certain economic arguments, and not the science of economics.

[735] See Kahn, A. E., 2006-2007, p. 161.

[736] Article 8(3) of the 2002 *Access Directive*.

[737] Veto on remedies has been subject of broad debate during the 2008 Framework reform procedures.

[738] According to the 2009 *Framework Directive*, there is an additional harmonising procedure involving the Commission and BEREC in respect of remedies.

One should note that certain NRAs, such as Ofcom, do conduct Regulatory Options Appraisal (i.e. cost-benefit) analyses before opting in for certain remedies.[739] Nevertheless, as the Portuguese and the Finish cases as to fibre show,[740] there can still exists a broad differentiation of remedies, even though products are economically on the same market. In the absence of specific economic reasoning, this can also be interpreted as politically granted NGA 'regulatory holidays', similar to the ones granted by the German parliament.

It would be wrong to imply that the law needs to free itself from politics, and that it should seek safeguards for performing its expectation-stabilising function only in economic analysis. On the contrary, political intervention is crucial in setting the principles of regulation and regulatory powers. Whereas one could question the law's expectation-stabilising function if particular political interests regularly found their way into concrete regulatory decision-making,[741] the coupling of law with politics by means of legislation could also be the only way of curing the inefficiencies caused by the law's existing autopoietic structures.

Two types of *ex ante* regulation that have recently been (largely politically) introduced both at the level of Member States and at the EU level show that the general (legal and political) programme of phasing out all regulatory remedies may be neither logical, not sustainable. These two types are:

- functional separation between the network and service part of the incumbent operators; and
- symmetrical regulation as to network interconnection and infrastructure sharing.

In both cases the phasing out of regulation and its careful regular reviews make no sense. In the case of functional separation, one has to deal with the complex task of re-structuring a previously unified company into two or more separate divisions with very limited links between each other. In the case of infrastructure sharing, lifting

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[739] See e.g. 'Requirement on BT to publish Key Performance Indicators' (2004) Available at http://www.ofcom.org.uk/consult/condocs/bt_kpi/statement/statement_directions.pdf, 24th January 2009.

[740] See above fn. 712 and 713.

[741] See Majone, G. in: Hayward, J., Menon, A., 2003, p. 311.

regulatory controls could mean an endless exploitation of the bargaining power by the ones who have managed to roll out infrastructure first and are therefore hosting later entrants' infrastructure.

Functional separation has for the first time been tested in Europe in the UK. The idea came up as part of Ofcom's strategic review conducted from 2004 to 2005. Ofcom expressly stated that it did not have a statutory obligation to carry out a strategic review of telecoms.[742] Accordingly, the ideas of the review largely departed from the Framework-based regulatory review of the competitiveness of the relevant markets, and can be attributed to regulatory innovation, i.e. Ofcom's purpose-specific activities. In the review Ofcom specifically referred to the contrast between the markets where competition has already removed or will remove the need for *ex ante* remedies, and the enduring economic bottlenecks.[743]

It is the very endurance of local access bottleneck that suggests the need for functional separation. As Ryan argued in 2003, the progress towards the establishment of sustainable local competition has been disappointing in both the EU and the US.[744] With the advent of FTTH or FTTC solutions, prospects across Europe do not seem to be improving. The former incumbents are normally the strongest market players also in fibre-based solutions (e.g. KPN in the Netherlands or Telefonica in Spain). On the other hand, where new entrants had the first mover advantage (e.g. T-2 in Slovenia), this often resulted in an inefficient duplication of FTTH infrastructures in lucrative urban areas, while leaving a huge percentage of the population without any access to fibre. It is therefore difficult to argue that there is effective competition in access networks *due to new access technologies*. Quite on the contrary, it seems that bottlenecks with newly laid fibre-based access infrastructures remain the same as those with metallic local loops of the PSTN. Accordingly, the 'legacy' argument linked to copper local loops may indeed no longer be relevant in order to decide upon mandating access.[745]

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[742] 'Final statements on the Strategic Review of Telecommunications, and undertakings in lieu of a reference under the Enterprise Act 2002 Statement, 22 September 2005' (2005) Available at http://www.ofcom.org.uk/consult/condocs/statement_tsr/statement.pdf, 25th January 2009, p. 3

[743] Ibidem.

[744] Ryan, M. H., 2003.

[745] See e.g. Naftel, M., Spiwak, L. J., 2000, p. 313.

Looking at the Framework reform from 2007 to 2009, however, the EU legislation does not seem to admit that functional separation is a remedy for durable bottlenecks that may never be cured, at least not by technologies known today. Instead, functional separation has been addressed as yet another access remedy that can be imposed by the NRAs, provided that the Commission agrees and the same effect cannot be reached by other remedies.[746] In order to impose the remedy, one needs to fulfil the standard that there is "little or no prospect of infrastructure competition within a reasonable timeframe after recourse to one or more remedies previously considered to be appropriate".[747] This means that infrastructure competition is still considered as an essential element, and that it is only the 'timeframe' for its introduction that calls for the 'temporary' remedy of functional separation. Bearing in mind the Commission experts' concerns that even two fully rolled-out parallel networks would create a duopoly, which easily leads to collusion between the operators,[748] this persistence upon infrastructure competition reflects not only the beliefs of certain politicians that European incumbent operators should be protected from overly intrusive regulation, but also the autopoietic nature of the EU Framework's legal grounds for regulation.

As enacted in 2009, functional separation is far from being a policy goal of the reformed EU Framework.[749] Instead, it is treated as a last resort remedy. The latter is rather unusual bearing in mind that the UK, that was the first in Europe to introduce this remedy, is also the country with the longest tradition in liberalisation and

[746] 'Review of the EU regulatory framework for electronic communications networks and services: Proposal for a Directive of the European Parliament and of the Council amending Directives 2002/21/EC on a common regulatory framework for electronic communications networks and services, 2002/19/EC on access to and interconnection of electronic communications networks and services, and 2002/20/EC on the authorisation of electronic communications networks and services – Political agreement' (2008) Available at http://register.consilium.europa.eu/pdf/en/08/st17/st17006.en08.pdf, 26th January 2009, Article 13a, see Appendix.

[747] See ibidem, Recital 43.

[748] Nihoul, P., Rodford, P., 2004, p. 200.

[749] See Article 13a (1) of the 2009 *Access Directive*: "Where the national regulatory authority concludes that the appropriate obligations imposed under Articles 9 to 13 have failed to achieve effective competition and that there are important and persisting competition problems and/or market failures identified in relation to the wholesale provision of certain access product markets, it may, as an exceptional measure, in accordance with the provisions of the second subparagraph of Article 8(3), impose an obligation on vertically integrated undertakings to place activities related to the wholesale provision of relevant access products in an independently operating business entity."

regulation.[750] In addition, it seems that Commissioner Viviane Reding saw the remedy of functional separation as a broader policy perspective, but had to face the constraints of political power when introducing it to the Framework.[751]

Symmetrical obligations, on the other hand, have so far not been in the centre of regulatory attention. For example, European NRAs are granted powers to impose interconnection obligations in order to ensure end-to-end connectivity.[752] However, since operators controlling access and terminating voice traffic to their end-users are already regulated as SMP operators, such regulatory actions are not generally necessary. This is interesting bearing in mind Shelanski's arguments that a shift to competition law would not necessarily make specific interconnection rules as to the (mutual) exchange of traffic obsolete,[753] which could also be applied to access and other infrastructure bottlenecks. For example, in parallel to SMP remedies, obligations of new access infrastructure sharing were mandated upon market players in France by means of statute. In 2008 the French Parliament adopted a law on 'modernising the economy', which includes a chapter on telecommunications, imposing among others, the obligation to meet reasonable requests for access to in-building fibre-optic lines coming from operators wishing to provide electronic communications services to end-users.[754] Subsequently, ARCEP, the French NRA, published its preliminary non-binding recommendations on access to in-building

[750] This does not in any way undermine the argument that functional separation may only work with operators who have already started 'equalising' treatment of wholesale and retail channels, bearing in mind that they would inevitably lose retail customers and that there are gains to be made in wholesale markets. Waters, P., Yuen, A., 2006, p. 15.

[751] See comment in 'Brussels split on functional separation' (2007) Available at https://publicaffairs.linx.net/news/?p=704, 26th January 2009: "EU Competition Commissioner Neelie Kroes and Industry Commissioner Günter Verheugen have united to attack telecoms Commissioner Viviane Reding's plans to increase functional separation in telecoms incumbents. Functional separation requires dominant companies to separate – but not sell – their network infrastructure from their services division, and give competing providers access to the infrastructure on equivalent terms. Viviane Reding has cited the experience of functional separation by BT in the UK as a model for the rest of Europe. Kroes and Verheugan believe Reding's proposals would create bureaucracy and harm investment, saying that functional separation 'is not only superfluous but also damaging. Functional separation does not prevent discrimination of alternative operators'."

[752] Article 5 of the 2002 *Access Directive*: "... In particular, without prejudice to measures that may be taken regarding undertakings with significant market power in accordance with Article 8, national regulatory authorities shall be able to impose: (a) to the extent that is necessary to ensure end-to-end connectivity, obligations on undertakings that control access to end-users, including in justified cases the obligation to interconnect their networks where this is not already the case; ..."

[753] Shelanski, H. A., 2007, p. 99.

[754] 'Cullen International Cross-country analysis, November 7, 2008' (2008) Available at http://www.cullen-international.com/documents/cullen/prindex.cfm, 26th January 2009.

wiring. The French example shows that politics in Europe can intervene by means of setting more durable and general solutions than those contained in the EU 2002 Framework.

To conclude, the environment can produce situations that cannot be adequately, say efficiently, tackled by the instruments of autopoietic EU law due to its general view that *ex ante* regulation can only be temporary and that there is, at least in the long run, a prospect of infrastructure competition. This can create anomalies when innovative regulatory concepts must be legally tailored to this autopoietic mantra: due to their complexity and costs, remedies such as functional separation only make sense as strategic policy decisions. Nevertheless, European politics had been during the 2007-2009 period primarily obsessed with preserving the 'incentives' for incumbent operators to invest.[755] These political views were reinforced by the stickiness of the NRF mantra that saw the transition to pure EU competition law as the ultimate goal for regulation. Therefore, the functional separation option could only fit into the legislative picture as a compromise and not as an approach worth promoting, as earlier suggested by Commissioner Viviane Reding.

[755] See the 'Trautmann Report'.

6 CONCLUSION

Exploring the European communications law and its evolution by means of 'systems theory' has revealed how the law keeps relying on its own images of economy (e.g. competition law) and technology (e.g. public telephony), while attempting to make these images more receptive towards the environment in order to promote them. As experience with NGN shows, these attempts have resulted in increased legal reflexivity in relation to the environment: the law has managed to deal with VoIP thoroughly in the context of its own image of voice telephony, whereas the issues of access to NGN networks have by means of the legal idea of the 'markets' been addressed within the scope of regulatory market analysis. In many ways, bearing in mind its autopoietic nature, the law has proven to be highly receptive of the new technological and business phenomena. The principle of technological neutrality has put technology-related questions in the context of legal 'equality': the provision of voice services by means of IP protocol, for example, is now neither legally discouraged, nor excluded from public interest obligations in respect of emergency calls, whereby the ERG and regulators like Ofcom have shown a great deal of innovation in finding adequate interim and permanent solutions for the migration of telephony to IP protocol.[756] Furthermore, competition law-based regulatory measures have enabled and added to the reflexivity of law in respect of economic transactions taking place in the communications services and infrastructure markets. Accordingly, wholesale access services have been defined on the basis of their commercial substitutability, without explicit limitation to copper-based solutions, which enables the inclusion of fibre-based NGAs into the legal scheme.[757] This reflexivity of EU communications law is further enhanced by the institutional framework, whereby the Commission and the ERG, now transformed to BEREC, are mandated to produce harmonised legal regulatory solutions for market developments, which in practice also means the reactions to the NGN developments mentioned above.

[756] See the chapter on VoIP.

[757] See *Recommendation 2007/879/EC*.

Accordingly, unlike, say WTO law[758] that does not regularly couple with its business and technological environment, EU law has largely evolved based on its coupling with the outside triggers, but not in a way that would make it 'less legal'. Instead, it has sought legal solutions that could capture the complexities of the environment on its 'internal screen', which resulted in a huge and complex body of legal responses. Of course, these responses necessarily take time, which will always be perceived as the lagging behind of the legal system, even if the legal reforms are implemented with a much faster pace than today. In addition, as is the case with the Commission and the ERG,[759] legal reactions to technologies can be largely determined by the internal institutional and legal triggers, and not economy or technology.

However, the reflexivity of EU law evolution in relation to NGN has not only been limited by the gap due to inter-system synchronisation, but also by means of the law's own programmes. Both the law and the institutional activities described above are autopoietic, which means that the NGN environment cannot exercise any direct influence upon them. Legal regulatory measures are therefore always founded on the laws previously enacted. Therefore, the observation whether new technologies and business models have been dealt with adequately, say in a neutral way, will also remain internal to the legal system. Even if the law decides in certain communications, say market analysis, to couple with economic principles, it will ultimately use its internal understanding of these principles, based on the decision-making of the European Commission or the NRAs, which is highly unlikely to be either fully accepted or synchronised with its economic environment. As experience shows, say with SMP remedies,[760] even the changes in legislation, whereby the law has to couple with (potentially new) political ideas, primarily seek to re-use or re-shape the law's existing autopoietic concepts.

This thesis has identified two main areas in EU communications law where the law is caught between its internal attempts to pursue reflexivity of the environment in order to promote itself, and its autopoietic concepts that essentially determine the

[758] See the chapter on VoIP.

[759] See the chapter on the institutional framework.

[760] See the chapter on access and interconnection.

phenomena to be legally addressed: end-user services and wholesale access regulation.

As to end-user services regulation, huge efforts have been made by the Commission and the NRAs not only to properly classify VoIP according to the law, but also to enable its full technological potential, e.g. by allowing nomadicity, whereby the ERG has in its purpose-specific approach clearly departed from the initial classification approach.[761] However, the quantity of legal communications focusing on voice telephony regulation is not the function of, say the rationally defined public interest formula or the economic efficiency of this type of regulation. Instead, it stems from the legacy of the legal concept of public telephony that was already one of the key concepts in market liberalisation and protection of end-users under the ONP regulatory framework. Notwithstanding the purpose-specific efforts of the NRAs to ease the market entry for VoIP providers, these concepts have been the legal reason for, say Ofcom's interim forbearance policy for emergency calls, or the ERG's activism in respect of nomadicity. Without a statutory concept that sees public voice telephony as a phenomenon that deserves to be regulated, there would also be no need for a 'lighter touch' regulation. It is the law and not the 'needs of the environment' that has known a highly complex regulation of voice services, which has been only gradually dismantled by the 2009 review.[762] Accordingly, the law has itself created a potentially conflicting situation whereby VoIP could be deemed a 'publicly available telephone service' based on the equality principle. Of course, the law can choose to apply the principle of 'technological neutrality' as its internal concept, as was the idea of the 2002 Directives,[763] which can with the help of (again, the law's internal) criteria such as the 'function' or 'market substitution' create an internally equal or unequal legal image of a certain service. However, this does not say anything about the 'neutrality' of the legal treatment of technologies from the perspective of other social systems. Whereas the coupling with the economic concept of 'market substitutes' can create the illusion of an 'economic law' and possibly

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[761] 'ERG common position on VoIP ERG (07) 56rev2' (2007) Available at http://www.erg.eu.int/doc/publications/erg_07_56rev2_cp_voip_final.pdf, 31st January 2009, p. 18.

[762] See above. The 2009 *Universal Service Directive* has partially shifted the focus from 'public telephony' to 'public communications', but obligations tailored for traditional voice services largely remain in place.

[763] See Article 8 (1) of the 2002 *Framework Directive*.

legitimise the treatment of VoIP services in the context of the legal idea of 'PATS', the autopoietic closure of the law becomes more apparent when taking a broader perspective: there is no way the law could compare the social or economic relevance of 'PATS' regulation with, say net neutrality rules as long as the latter are not (yet) part of the law or are not subject to the same type of legal criteria or procedure. In this respect, despite the alleged neutrality, legal arguments as to which services should or should not be subject to regulation do not in any way guarantee efficiency or other socially relevant effects of this regulation.

As European regulation of access and interconnection shows, this is the case even if the 'market situation' is perceived by the law as the universal criterion as to whether regulation is required or not. Defining the markets susceptible to *ex ante* regulation based on the list and the criteria set by the Commission, and subjecting remedies to NRA discretion moves regulatory measures away from coupling with economic analysis and into the law's internal 'best practices', sometimes coupled with specific political interests of the NRAs or the Commission.[764] In addition, market regulation is subject to the law's internal de-regulatory programme, whose economic sense is questionable when it comes to permanent bottlenecks or 'essential facilities'.[765] Furthermore, especially when it comes to the efficiency of measures, general competition law, i.e. the most immediate legal alternative to *ex ante* regulation, applies its remedies rarely and on the basis of lengthy proceedings, which makes its economic efficiency questionable, despite its structural coupling with economic analysis. Unlike the unbundling of legacy copper local loops, where the legal programme of open access has been clearly defined by means of a Community Regulation,[766] the example of NGA regulation reveals a mixture of a reluctance to regulate new technologies,[767] coupled with political interference on the part of the

[764] See above the chapter on NGA.

[765] Ironically, these are already dealt with by general competition law. See Oscar Bronner v. Mediaprint, C-7/97.

[766] *Regulation 2887/2000 on unbundled access to the local loop*.

[767] For example, when it comes to co-investment arrangements according to *Commission Recommendation on NGA* or access to fibre in the Portuguese case. See above the chapter on access regime.

NRAs,[768] Member States[769] and the Commission alike.[770] The flexibility of the present legal approach to access networks can still be questioned, especially when it comes to the legal system's ability to impose functional separation as a durable solution. Therefore, bearing in mind both the legal limits and the political irritations, the legal system's actual economic efficiency in respect of NGA would be surprising.

Subjecting the legal system to regular outside irritations, especially absent guarantees as to its economic performance, may be seen as disturbing, bearing in mind that the law provides for 'goods and services' that cannot be 'bought' in the economic system,[771] among them legal certainty. Whereas one could invoke mandatory public consultations of the 2002 Framework Directive as the type of coupling that neutralises political or lobbying interference, this mechanism is largely undermined by the autopoietic and often purpose-specific functioning of institutions such as the Commission, the ERG, now BEREC, and of course individual NRAs. Theoretically, although irritations from the environment remain essential for its evolution, the law only benefits as a system when it frees itself from constant interferences of the environment.[772] This can be achieved by means of firmer provisions in the legislation, which, ironically, again require the coupling of the law with politics.

Experience shows, however, that the autopoiesis of the legal regulatory system goes beyond the application of laws, and that the existing concepts are likely to remain central to the legislation even following its political reviews, as demonstrated by the 2002 reform in respect of interconnection. This self-perpetuation of the law has again been demonstrated during the 2008-2009 Framework Review process, whereby only minor changes of the NRF have been proposed and later adopted in 2009,[773] despite, for example, rather protectionist ideas clearly expressed by European MEPs in the Trautmann Report. While contributing to the law's expectation-stabilising function, legally described as 'legal certainty', this also makes it more difficult for alternative

[768] See e.g. the Portuguese case dealt with in the chapter on NGA.

[769] E.g. German regulatory holidays.

[770] See the chapter on access regime.

[771] See Luhmann, N., 2004, p.391.

[772] Teubner, G., *Law as an Autopoietic System*, p. 33.

[773] See the 2009 *Better Regulation* and *Citizens' Rights Directives*.

regulatory solutions not fitting into the complex and self-sufficient regulatory scheme to be adopted. Accordingly, it was not possible to introduce functional separation as a lasting strategic solution, a legal preference for 'Bill and Keep' as a possible future charging mechanism, or more prescriptive rules on net neutrality to the 2009 Framework. These ideas had to face the autopoiesis of the existing legal concepts on an unequal footing, as the existing legal solutions could be presented as legal arguments in itself against them. The priorities of the law have already been set as infrastructure competition, cost-based call termination, and the protection of end-users as to telephony services, whereas a supposedly flexible system of market analysis could be used to tackle new market problems.[774] Of course, one could point at the economic arguments against said new solutions, but this would largely miss the point: the solutions already present in the law, e.g. on public voice telephony regulation, do not in their application require economic justification.

However, the neo-classical mantra of de-regulation is often presented as an argument in itself against any new regulatory approaches,[775] including the ones described above. There is a disappointment attached to it, though: the presence of regulation does not say much about the economic impact of this regulation. For example, huge regulatory attention given to VoIP on both sides of the Atlantic, which originated in previous heavy regulation of POTS, has resulted in large amounts of regulatory discussions and documents,[776] in most cases lacking regulatory appraisal as to how efficient or at least relevant this regulation has been in respect of the use of IP telephony.[777] Notwithstanding these effects, the production of regulatory rules is further amplified by the EU institutional framework based on competing powers coupled with the regulators' 'will to survive'[778], whereby the coupling with economic analysis comes second to the essentially legal function of 'harmonisation'. In such

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[774] Crawford, S. 'Ed Richards of Ofcom on Net Neutrality' (2007) Available at http://www.circleid.com/posts/ed_richards_of_ofcom_on_net_neutrality/, 3rd May 2009.

[775] Yoo, C. S. 'Would mandating broadband network neutrality help or hurt competition?' (2004-2005) 3 *Journal on Telecommunications & High Technology Law*, p. 188.

[776] See the chapter on VoIP.

[777] See the chapter on VoIP.

[778] See also Hall, C., Scott, C., Hood, C., 2000, p. 209. The same can be observed in the context of the previous Commission – ERG relationship.

circumstances, a shift to 'simple, short new statutes' as proposed by Atkinson[779] seems highly unlikely. One is more likely to expect a further proliferation of regulatory norms, without any guarantee that the *right* rules required to achieve economic efficiency and end-user welfare are actually there. This may well become the case, bearing in mind that policy goals in respect of NGN are, unlike in the case of the unbundling of legacy copper local loops, expected to remain vague due to the lack of political consensus as to the contemporary issues, such as open access to NGAs, net neutrality, or the shift to 'Bill and Keep'.

[779] Atkinson, R. C. 'Telecom Regulation for the 21st Century: Avoiding Gridlock, Adapting to Change' (2005-2006) 4 *Journal on Telecommunications & High Technology Law* 408.

BIBLIOGRAPHY

Books

Ayres, I., Braithwaite, J. *Responsive Regulation, Transcending the Deregulation Debate* (Oxford University Press Oxford 1992)

Baldwin, R., Cave, M. *Understanding Regulation: Theory, Strategy, and Practice* (Oxford University Press Oxford 1999)

Banakar, R.; Travers, M.-ed. *Theory and Method of Socio-Legal research* (Hart Publishing Oxford and Portland Oregon 2005)

Barendt, E. M. *Broadcasting Law – A Comparative Study* (Clarendon Press Oxford 1995)

Bowrey, K. *Law and Internet Cultures* (Cambdrige University Press Cambridge 2005)

Collins, H. *Regulating Contracts* (Oxford University Press Oxford 1999)

Craig, P. P. *Administrative Law, Fifth Edition* (Thomson, Sweet & Maxwell London 2003)

Drahos, P., Braithwaite, J. *Information Feudalism* (The New Press New York 2002)

Geradin, D., Luff, D. *The WTO and Global Convergence in Telecommunications and Audio-visual services* (Cambridge University Press Cambridge 2004)

Goodrich, P. Legal *Discourse – Studies in Linguistics, Rhetoric and Legal Analysis* (Macmillan London 1987)

Hall, C., Scott, C., Hood, C. *Telecommunications Regulation – Culture, chaos and interdependence inside the regulatory process* (Routledge London and New York 2000)

Hayward, J., Menon, A.-ed. *Governing Europe* (Oxford University Press Oxford 2003)

Huber, P. W., Kellogg, M. K., Thorne, J. *Federal Telecommunications Law, Second Edition* (Aspen Law & Business New York 1999)

Kagan, R. A. *Adversarial Legalism: The American Way of Law* (Harvard University Press Cambridge 2001)

Larouche, P. *Competition Law and Regulation in European Telecommunications* (Hart Publishing Oxford and Portland Oregon 2000)

Lessig, L. *Code and Other Laws of Cyperspace* (Basic Books**,** New York 1999)

Lessig, L. *The Future of Ideas* (Random House New York 2001)

Luhmann, N. *Law as a Social System* (Oxford University Press Oxford 2004)

Luhmann, N. *Social Systems* (Stanford University Press, Stanford 1995)

Marsden, C. T. *Net Neutrality – Towards a Co-regulatory Solution* (Bloomsbury Academic London 2010)

Melody W.H. *Telecom Reform* (Technical University of Denmark Lyngby 1997)

Moran, M. *The British Regulatory State* (Oxford University Press Oxford 2007)

Naftel, M., Spiwak, L. J. *The Telecoms Trade War, The United States, the European Union and the World Trade Organisation* (Hart Publishing Oxford-Portland Oregon 2000)

Nihoul, P., Rodford, P. *EU Electronic Communications Law, Competition and Regulation in the European Telecommunications Market* (Oxford University Press Oxford 2004)

Parker, C., Scott, C., Lacey, N., Braithwaite, J. *Regulating Law* (Oxford University Press Oxford 2004)

Posner, R A. *Economic Analysis of Law, 6th ed*. (Aspen Publishers, New York 2002)

Reed, C. *Internet Law: Text and Materials* (Butterworths London 2000)

Richards, E., Foster, R., Kiedrowski, T.-ed. *Communications – the next decade* (Ofcom London 2006)

Scherer, J.–ed. *Telecommunication Laws in Europe, Law and Regulation of Electronic Communications in Europe, Fifth Edition* (Tottel – Baker&McKenzie London 2005)

Schiff Berman, P.-ed. *Law and Society Approaches to Cyberspace* (Ashgate Connecticut 2007)

Seerden, R. *Administrative Law of the European Union, its Member States and the United States, A Comparative Analysis* (Intersentia Metro Antwerpen 2002)

Spence, D. *The European Commission, 3rd edition* (John Harper Publishing, London 2006)

Stehmann, O. *Network Competition for European Telecommunications* (Oxford University Press Oxford 1995)

Teubner, G.-ed. *Dilemmas of Law in the Welfare State* (Gruyter New York Berlin 1988)

Teubner, G.-ed. *Global Law without a State* (Dartmouth Aldershot 1997)

Teubner, G.-ed. *Juridification of Social Spheres: A Comparative Analysis in the Areas of Labor, Corporate, Antitrust and Social Welfare Law* (Walter de Gruyter Berlin – New York 1987b)

Teubner, G. *Autopoietic Law* (de Gruyter, Berlin 1987)

Teubner, G., Febbrajo A. *State, Law, and Economy as Autopoietic Systems, Regulation and Autonomy in a New Perspective* (Dott. A. Giuffre Editore Milan 1992)

Teubner, G. *Law as an Autopoietic System* (Oxford 1993)

Walden, I., Angel, J. *Telecommunications Law* (Blackstone Press London 2001)

Walden, I., Angel, J. *Telecommunications Law and Reguation* (Oxford 2005)

Walden, I. *Telecommunications Law and Regulation, Third Edition* (Oxford University Press Oxford 2009)

Walden, I.; Angel, J. *Telecommunications Law and Regulation, Second Edition* (Oxford University Press 2005)

Wallace, H., Wallace, W. *Policy-making in the European Union, Fourth Edition* (Oxford University Press Oxford 2000)

Watson, A. *Legal Transplants – An Approach to Comparative Law, Second Edition* (The University of Georgia Press Athens and London 1993)

Weiler, J. H. H. *The Constitution of Europe: "Do the New Clothes Have an Emperor?" and Other Essays on European Integration* (Cambridge University Press Cambridge 1999)

Whish, R. *Competition Law, Sixth Edition* (Oxford University Press Oxford 2009)

Zittrain, J. *The Future of the Internet* (Penguin London 2008)

Zweigert, K.; Kötz, H. *Introduction to Comparative Law* (Clarendon Press Oxford 1998)

Articles

Atkinson, R. C. 'Telecom Regulation for the 21st Century: Avoiding Gridlock, Adapting to Change' (2005-2006) 4 *Journal on Telecommunications & High Technology Law* 407.

Bach, D., Sallet, J. 'The Challenges of Classification: Emerging VoIP Regulation in Europe and the United States, IE Working Paper' (2005) self-published on the web, available at http://latienda.ie.edu/working_papers_economia/WP05-19.pdf, 4th June 2007.

Ballard, T. 'Television Over the Internet: The Boundaries of Content Regulation' (2004) 3 *CTLR.*

Bauer, J. M., Wildman, S. S. 'Looking Backwards and Looking Forwards in Contemplating the Next Rewrite of the Communications Act' (2006) 58 *Fed. Comm. L.J.* 415.

Black, J. 'Proceduralizing regulation: Part I' (2000) Oxford Journal of Legal Studies, Vol. 20, No. 4.

Black, J. 'Proceduralizing regulation: Part II' (2001) Oxford Journal of Legal Studies, Vol. 21, No. 1.

Born, A. W., Goldschmidt, L. B. 'Legal Regulation and Communicative Couplings' (1997) *Law & Policy*, January.

Brisby, P. 'Functional separation in the UK telecoms markets: time to reconsider?' (2011) 17(1) *CTLR* 1-5.

Burbridge, C.'IPTV: The dependencies for success' (2006) 22 *CLSR.*

Cannon, R. 'State Regulatory Approaches to VoIP' (2006) *Federal Communications Law Journal*, Vol. 57.

Cave, M. 'Encouraging infrastructure competition via the ladder of investment' (2006) *Telecommunications Policy*, Volume 30, Issues 3-4, April-May.

Cave, M. 'Managing ladder of investment' (2005) Presentation at the 'NGN and Emerging Markets' seminar, BNetzA and WIK, available at www.bundesnetzagentur.de/media/archive/5459.pdf, 3st January 2006.

Cave, M., Mason, R. 'The Economics and Regulation of the Internet' (2001) self-published on the web, paper prepared for the *OXREP* issue on economics and the Internet.

Cave, M. 'Not Regulating Broadband Wholesale Access in the Netherlands' (2004) self-published on the web.

Cave. M. 'The regulation of access in telecommunications: a European perspective' (2006) Delivered as a public lecture in London on October 26, 2006, revised April 2007, delivered at *CRESSE*, Corfu.

Chandler, D. 'Technological or Media Determinism' (2008) self-published on the web, available at http://www.aber.ac.uk/media/Documents/tecdet/tdet08.html, 2nd May 2009.

Crawford, S. 'Ed Richards of Ofcom on Net Neutrality' self-published on the web, available at http://www.circleid.com/posts/ed_richards_of_ofcom_on_net_neutrality/, 3rd May 2009.

Crocioni, P. 'Leveraging of market power in emerging markets: a review of cases, literature, and a suggested framework' (2008) 4(2) J.*C.L. & E.*, 449-534.

Deakin, S. 'Evolution of Our Time: A Theory of Legal Memetics' (2002) *Current Legal Problems* Vol. 55, Oxford University Press.

DeWoskin, K. J. 'The WTO and the Telecommunications Sector in China' (2001) *The China Quarterly.*

Dick, K. 'The Emergence and Regulation of VoIP' (2004) 7 *CTLR.*

Dods, D., Brisby, P., Hubbard, R., Ollerenshaw, K., Ingram, B. 'Reform of European electronic communications law: a special briefing on the radical changes of 2009' (2010) 16(4) *CTLR* 102-112.

Downes, L. 'The case against the FCC's Net neutrality plan' (2009) self-published on the web, available at http://news.cnet.com/8301-1035_3-10385865-94.html?tag=newsEditorsPicksArea.0 , 29th October 2009.

Dupuis-Toubol, F. 'The French Telecommunications Monopoly: How to Break the Bottleneck of the Local Loop' (2002) 8(6) *CTLR* 131-135.

Fulmer, C. E. 'When Discrimination is Good: Encouraging Broadband Internet Investment without Content Neutrality' (2006) *Duke L. & Tech. Rev.* 6.

Ganley, P., Allgrove, B. 'Net Neutrality: A user's guide' (2006) 22 *CLSR.*

Hemphill, C. S. 'Network Neutrality and the False Promise of Zero-price Regulation' (2008) *Yale Journal on Regulation*, Vol. 25:2.

'How the Internet killed the telephone business' (2005) *Economist*; 9/17/2005, Vol. 376 Issue 8444.

Ingram, P. ‘Should regulators be concerned with net neutrality?’ (2006) self-published on the web, available at http://www.ofcom.org.uk/media/speeches/2006/12/net_neutrality_111206.pdf, viewed 15th August 2009.

Kahn, A. E. ‘Telecommunications: The Transition from Regulation to Antitrust’ (2006-2007) *Journal on Telecommunications & High Technology Law*, Vol. 5.

Kemmitt, H. ‘The Regulation of VoIP Services in the United Kingdom’ (2008) 14(4) *CTLR* 87-91.

Kingsbury, B., Krisch, N., Stewart, R. B., Wiener, J. B. 'The Emergence of Global Adminstrative Law' (2005) *Law and Contemporary* Problems, Vol. 68 Nos. 3 & 4.

Knieps, G., Zenhausern, P. ‘Phasing out sector-specific regulation in European telecommunications’ (2010) 6(4) *J.C.L. & E* 995-1006.

Le Coz, C. ‘Why the future of online speech depends on net neutrality’ (2009) self-published on the web, available at www.savetheinternet.com/blog/09/11/04/why-future-online-speech-depends-net-neutrality, viewed 15th May 2010.

Leisinger, A. L. ‘If It Looks Like a Duck: The Need for Regulatory Parity in VoIP Telephony’ (2006) *Washburn Law Journal*, Vol. 45.

Li, Wei ‘The Impact of Privatization and Competition in the Telecommunications Sector Around The World’ (2004) 47 J. *Law & Econ*. 395.

Liebowitz, S. J., Margolis, S. E. ‘Path dependence, Lock-In, and History’ (1995) *The Journal of Law, Economics, and Organisation*, Vol. 11., No. 1.

Luhmann, N. ‘Globalization or World Society: How to Conceive of Modern Society?’ (1997) *International Review of Sociology*, Vol. 7 Issue 1.

Melicias, M. J. ‘The transatlantic divide: How the EU and US differ on the assessment of single firm conduct’ (2009) *Competition Law Insight*, 2 June.

Mercado-Kierkegaard, S. ‘The new media landscape: Regulating the idiot boxes’ (2006) 22 *CLSR*.

Michalis, M. ‘Regulation of Internet Telephony in the United States and the European Union’ (2004) 6 *CTLR*.

Muys, S. ‘New Wines and Old Wineskins: Addressing the Challenge of Regulating IP-based Networks and Services’ (2006) 12(3) CTLR 59-66.

Notebaert, R. C. ‘Overseeing the Unforeseeable: A Rational Regulatory Approach to 21st Century Communications’ (2005-2006) 4 *Journal on Telecommunications & High Technology Law* 31-42.

Paterson, J., Teubner, G. ‘Changing Maps: Empirical Legal Autopoiesis’ (1998*) Social & Legal Studies,* 7:4.

Peter, H. ‘The Super-Agency as Muppet: how EECMA may become Bert’ (2008) Content and Carrier, available at www.contentandcarrier.eu/?p=263 , 1st November 2009.

Prosser, T. 'Public Service Law: Privatization's Unexpected Offspring' (2000) *Law and Contemporary* Problems, Vol. 63 No. 4.

Rahm, W. D. 'Watching over the Web: A Substantive Equality Regime for Broadband Applications' (2007) 24 *Yale J. on Reg*. 1.

Rawson, S. 'Voice Over IP services: Regulatory perspectives from the developed and the developing worlds' (2005) *Computer Law & Security Report*, Issue 21.

Reed, C. 'Taking Sides on Technology Neutrality' (2007) self-published on the web, available at http://www.law.ed.ac.uk/ahrc/script-ed/vol4-3/reed.asp, 27th April 2009.

Ryan, M. H. 'Structural Separation: A Prerequisite for Effective Telecoms Competition' (2003) 24 (6) *ECLR* 241-250.

Scott, C. 'The proceduralization of telecommunications law' (1998) *Telecommunications Policy*, Vol. 22, No. 3.

Selvadurai, N., Salter, B., Town, G. 'Designing a regulatory framework for the deployment of high speed broadband infrastructure: a global overview: Part 1' (2008) 14(3) *CTLR* 73-81.

Selvadurai, N., Salter, B., Town, G. 'Designing a Regulatory Framework for the Deployment of High-Speeed Broadband Infrastructure: a Global Overview: Part II' (2008) 14(4) *CTLR* 94-100.

Shapiro, A. L. 'Aiding the Final Push of the Digital Transition' (2005) 5 *Cardozo Pub. L. Pol'y & Ethics* J. 339.

Shelanski, H. A. 'Adjusting Regulation to Competition: Toward a New Model for U.S. Telecommunications Policy' (2007) *Yale Journal on Regulation*, Vol. 24:1.

Silva, P. 'Regulation, self-regulation, market regulation and the public sphere' (2005) self-published on the web, available at http://thecity.sfsu.edu/~psilva/papers/regulatory_policy_paper.html, 30th March 2011.

Sinclair, M. 'Is technological neutrality an achievable goal?' (2000) *EBL*, June.

Singer, H. J. 'Does Video Delivered over a Telephone Network Require A Cable Franchise?' (2007) 59 *Fed. Comm. L.J.* 251.

Small, R.G. 'Path dependence and the law: A law and economics analysis of the development of the insider trading laws of the United States, United Kingdom, and Japan' (2001) *PhD thesis, SOAS*.

Steitz, C. '*Planned* EU telecoms authority to replace ERG in 2010' (2007) Forbes, available at www.forbes.com/feeds/afx/2007/10/31/afx4284234.html, 26th July 2009.

Tarrant , A., Kelemen, R. D. 'Building the Eurocracy: The Politics of EU Agencies and Networks' (2007) Paper Prepared for the Biennial European Union Studies Association Convention, Montréal, Canada, 16-19 May 2007, self-published on the web, available at http://www.unc.edu/euce/eusa2007/papers/kelemen-d-08h.pdf, 5th June 2010.

Teubner, G. 'Enterprise Corporatism: New Industrial Policy and the "Essence" of the Legal Person, EUI Working Paper No. 87/294' (1987c) European University Institute, Florence.

Thompson, M 'Technological Singularity and Technological Neutrality' (2009) self-published on the web, available at http://people.oii.ox.ac.uk/thompson/2009/02/22/technological-singularity-and-technological-neutrality/, 29th April 2009.

Van Loon, A. ‘The end of broadcasting era, What consitutes broadcasting and why does it need to be regulated?’ (2004) *Communications Law*, Vol. 9, No. 5.

Walden, I. ‘The regulatory implications of Internet telephony’ (1996) *Computer and Telecommunications Law Review*, vol. 2, no. 6.

Waters, P., Yuen, A. ‘Operational Separation – A New Style of Regulation’ (2006) 12(7) *CTLR* 231-239.

Whitworth, R. ‘IP Video: Putting Control in the Hands of the Consumers’ (2005) 14 *CommLaw Conspectus* 207.

Wu, T. ‘Why Have a Telecommunications Law? Anti-discrimination Norms in Communications’ (2004) 5 *Journal on Telecommunications & High Technology Law* 69.

Yoo, C. S. ‘Beyond Network Neutrality’ (2005) *Harvard Journal of Law & Technology*, Volume 19, Number 1.

Yoo, C. S. ‘Would mandating broadband network neutrality help or hurt competition?’ (2004-2005) 3 *Journal on Telecommunications & High Technology Law.*

Legislation, legislative proposals and recommendations

Changes to General Conditions and Universal Service Conditions Implementing the revised EU Framework Consultation, Ofcom, 24 February 2011.

Commission Directive of 28 June 1990 on competition in the markets for telecommunications services (90/388/EEC).

Directive 2000/31/EC of the European Parliament and of the Council of 8 June 2000 on certain legal aspects of information society services, in particular electronic commerce, in the Internal Market (E-Commerce Directive).

Directive 2002/19/EC of the European Parliament and of the Council of 7 March 2002 on access to, and interconnection of, electronic communications networks and associated facilities (2002 Access Directive).

Directive 2002/19/EC of the European Parliament and of the Council of 7 March 2002 on access to, and interconnection of, electronic communications networks and associated facilities (Access Directive) as amended by Directive 2009/140/EC (2009 Access Directive).

Directive 2002/21/EC of the European Parliament and of the Council of 7 March 2002 on a common regulatory framework for electronic communications networks and services (2002 Framework Directive).

Directive 2002/21/EC of the European Parliament and of the Council of 7 March 2002 on a common regulatory framework for electronic communications networks and services (Framework Directive) as amended by Directive 2009/140/EC and Regulation 544/2009 (2009 Framework Directive).

Directive 2002/22/EC of the European Parliament and of the Council of 7 March 2002 on universal service and users' rights relating to electronic communications networks and services (2002 Universal Service Directive).

Directive 2002/22/EC of the European Parliament and of the Council of 7 March 2002 on universal service and users' rights relating to electronic communications networks and services (Universal Service Directive) as amended by Directive 2009/136/EC (2009 Universal Service Directive).

Directive 97/33/EC of the European Parliament and of the Council of 30 June 1997 on interconnection in Telecommunications with regard to ensuring universal service and interoperability through application of the principles of Open Network Provision (ONP)(1997 Interconnection Directive).

'Bitstream Access, ERG Common Position of 2nd April 2004 and amended on 25th May 2005, ERG (03) 33rev2' (2005) Available at http://www.erg.eu.int/doc/whatsnew/erg_03_33rev2_bitstream_access_final_plus_cable_adopted.pdf, 3rd May 2008.

Broadcasting Act 1990.

Commission Communication on accelerating the transition from analogue to digital broadcasting (COM(2005)204.

Commission Decision 2002/627/EC of 29 July 2002 establishing the European Regulators Group for Electronic Communications Networks and Services.

Commission Recommendation 2003/311/EC on relevant product and service markets within the electronic communications sector susceptible to ex ante regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services.

Commission Recommendation of 20.9.2010 on regulated access to Next Generation Access Networks (NGA), C(2010) 6223 final.

Commission Recommendation on relevant product and service markets within the electronic communications sector susceptible to ex ante regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services (Second edition), C(2007) 5406 rev 1.

Commission Recommendation on the Regulatory Treatment of Fixed and Mobile Termination Rates in the EU, C(2009) 3359 final.

Commission Staff Working Document, Explanatory Note, Accompanying document to the Commission Recommendation on Relevant Product and Service Markets within the electronic communications sector susceptible to ex ante regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services, (Second edition), SEC(2007) 1483/2.

Commission Staff Working Document, Impact Assessment, Accompanying document to the Proposal for a Directive of the European Parliament and the Council amending European Parliament and Council Directives 2002/19/EC, 2002/20/EC and 202/21/EC Proposal for a Directive of the European Parliament and the Council amending European Parliament and Council Directives 2002/22/EC and 2002/58/EC Proposal for a Regulation of the European Parliament and the Council establishing the European Electronic Communications Markets Authority, SEC(2007) 1472.

Commission's position Status of voice communications on Internet under Community law and, in particular, pursuant to Directive 90/388/EEC

'Common Position on Best Practice in Remedies Imposed as a Consequence of a Position of Significant Market Power in the Relevant Markets for Wholesale Leased Lines, ERG (07) 54' (2007) available at http://www.erg.eu.int/doc/publications/erg_07_54_wll_cp_final_080331.pdf, 1st January 2009.

'Common Position on symmetry of fixed call termination rates and symmetry of mobile call termination rates, ERG (07) 83' (2007) Available at http://www.erg.eu.int/doc/publications/erg_07_83_mtr_ftr_cp_12_03_08.pdf, 1st January 2009.

Communication Act of 2003.

Communication from the Commission - Status of voice on the Internet under Community law, and in particular, under Directive 90/388/EEC - Supplement to the Communication by the Commission to the European Parliament and the Council on the status and implementation of Directive 90/388/EEC on competition in the markets for telecommunications services (2000/C 369/03).

'Community Guidelines for the application of State aid rules in relation to rapid deployment of broadband networks, Official Journal of the European Union, C 235/7, 30.9.2009' (2009) Available at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2009:235:0007:0025:EN:PDF , 2nd October 2009.

Compromise proposal for the consolidated version of the Proposal amending Directive 2002/22/EC, Brussels, 10 October 2008, Working Party on Telecommunications and Information Society, Room Document 71/08.

Digital Millennium Copyright Act of 1998.

Directive 89/552/EEC on the coordination of certain provisions laid down by law, regulation or administrative action in Member States concerning the provision of audiovisual media services as amended by the Directive 97/36/EC and Directive 2007/65/EC (Audiovisual Media Services Directive).

Directive 95/62/EC (Voice Telephony Directive).

Directive 2009/136/EC (Citizens' Rights Directive).

Directive 2009/140/EC (Better Regulation Directive).

'Draft Commission Recommendation of on regulated access to Next Generation Access Networks (NGA)' (2008) Available at http://ec.europa.eu/information_society/policy/ecomm/doc/library/public_consult/nga/dr_recomm_nga.pdf , 25th June 2009.

'Draft Community Guidelines for the application of State aid rules in relation to rapid deployment of broadband networks' Available at http://ec.europa.eu/competition/consultations/2009_broadband_guidelines/guidelines_en.pdf, 8th August 2009.

'Draft Report on the proposal for a directive of the European Parliament and of the Council amending Directive 2002/21/EC on a common regulatory framework for electronic communications networks and services, Directive 2002/19/EC on access

to, and interconnection of, electronic communications networks and services, and Directive 2002/20/EC on the authorisation of electronic communications networks and services, (COM(2007)0697 – C6-0427/2007 – 2007/0247(COD)), Committee on Industry, Research and Energy, 23rd April 2008' (2008) Available at http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//NONSGML+COMPARL+PE-398.542+02+DOC+PDF+V0//EN&language=EN , 25th June 2009 (*'Trautmann Report'*).

'ERG Common Position on Best Practice in Bitstream Access Remedies Imposed as a Consequence of a Position of Significant Market Power in the Market for Wholesale Broadband Access, ERG(06)69Rev1' (2006) Available at http://www.erg.eu.int/doc/publications/erg_06_69rev1_wba_cp.pdf, 2nd March 2008.

'ERG Common Position on the approach to Appropriate remedies in the new regulatory framework, ERG (03) 30rev1' (2003) http://www.erg.eu.int/doc/whatsnew/erg_0330rev1_remedies_common_position.pdf, 1st January 2009.

'ERG Common Position on VoIP, ERG (07) 56rev2' (2007) Available at http://www.erg.eu.int/doc/publications/erg_07_56rev2_cp_voip_final.pdf, 31st January 2009.

'ERG Common Statement for VoIP Regulatory Approaches, ERG (05) 12' (2005) Available at http://erg.ec.europa.eu/doc/publications/erg0512_voip_common_statement.pdf, 15th August 2009.

'ERG Opinion on Regulatory Principles of NGA, ERG (07) 16rev2' (2007) Available at http://www.erg.eu.int/doc/publications/erg07_16rev2_opinion_on_nga.pdf, 31st May 2009.

'ERG Report on "VoIP and Consumer Issues", ERG (06) 39' (2006) Available at http://erg.ec.europa.eu/doc/publications/erg_06_39_report_voip_cons_aspects.pdf, 15th August 2009.

'ERG Work Programme 2009' (2008) Available at http://www.erg.eu.int/doc/publications/consult_wp_2009/erg_08_48_wp_2009_final_081209.pdf, 30th December 2008.

'FCC Notice of proposed rulemaking, WC Docket No. 07-52, 22nd October 2009' (2009) Available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-09-93A1.pdf, 24th October 2009.

'FICORA's opinion on regulation of Skype services in Finland' (2005) Available at http://www.ficora.fi/attachments/englanti/1156489126854/Files/CurrentFile/Skype_final_English.pdf , 21st April 2007.

'FICORA's Opinion on the use of telephone numbers in VoIP services' (2006) Available at http://www.ficora.fi/attachments/englanti/5jZV5jrAi/Files/CurrentFile/VoIP_English.pdf, 9th April 2007.

Final Report on IP interconnection, 2007, ERG (07) 09

'Final statements on the Strategic Review of Telecommunications, and undertakings in lieu of a reference under the Enterprise Act 2002 Statement, 22 September 2005'

(2005) Available at http://www.ofcom.org.uk/consult/condocs/statement_tsr/statement.pdf, 25th January 2009.

'First Report and Order and Notice of Proposed Rulemaking, June 2005' 82005) Available at http://www.fcc.gov/cgb/voip911order.pdf, 30th March 2011

'General Conditions of Entitlement, Ofcom' Available at http://www.ofcom.org.uk/telecoms/ioi/g_a_regime/gce/gcoe/, 15th August 2009.

Green paper on the convergence of the telecommunications, media and information technology sectors, and the implications for regulation, COM(97)623.

US 'Internet Freedom Preservation Bill of 2008' (2008) Available at http://www.opencongress.org/bill/110-h5353/text, 2nd January 2009.

IRG/ERG Response to the Draft Recommendation on the regulated access to Next Generation Access Networks (NGA) of 18th September 2008.

IRG/ERG 2009 Work Programme, http://erg.ec.europa.eu/doc/work_progr_2009/erg_08_48_wp_2009_final_081209.pdf, 29th October 2009.

'IRG/ERG Response to the Draft Recommendation on the regulated access to Next Generation Access Networks (NGA) of 18th September 2008, ERG (08) 38 rev2' (2008) Available at http://erg.ec.europa.eu/doc/publications/erg_08_38rev2_final_i_erg_response_to_ec_draft_nga_rec_081016.pdf , 2nd October 2009.

'New Build Investment Guidance on Telecoms Regulation, Ofcom Guidance Note, 27th May 2009' (2009) Available at http://www.ofcom.org.uk/telecoms/ioi/orp/newbuild/NewBuildGuidance.pdf, 31st May 2009.

New and Emerging Technologies 911 Improvement Act of 2008.

New Voice Services: A consultation and interim guidance, Ofcom, 6 September 2004.

Ofcom Consumer Panel Regulatory Toolkit, Ofcom Consumer Panel.

Position of the European Parliament adopted at second reading on 6 May 2009 with a view to the adoption of a Directive 2009/.../EC of the European Parliament and of the Council amending Directives 2002/21/EC on a common regulatory framework for electronic communications networks and services, 2002/19/EC on access to, and interconnection of, electronic communications networks and associated facilities, and 2002/20/EC on the authorisation of electronic communications networks and services.

Proposal for a Directive of the European Parliament and of the Council Amending Council Directive 89/552/EEC, COM(2005) 646 final.

'Proposal for a Directive of the European Parliament and of the Council amending Directive 2002/22/EC on universal service and users' rights relating to electronic communications networks, Directive 2002/58/EC concerning the processing of personal data and the protection of privacy in the electronic communications sector and Regulation (EC) No 2006/2004 on consumer protection cooperation - Political agreement, Report to Coreper of 7 November 2008' (2008) Available at

http://register.consilium.europa.eu/pdf/en/08/st15/st15093.en08.pdf, 3rd January 2009.

'Proposal for a Directive of the European Parliament and of the Council amending Directives 2002/21/EC on a common regulatory framework for electronic communications networks and services, 2002/19/EC on access to, and interconnection of, electronic communications networks and services, and 2002/20/EC on the authorisation of electronic communications networks and services, COM(2007) 697 final' (2007) Available at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2007:0697:FIN:EN:HTML, 29th December 2008.

Proposal for a Directive of the European Parliament and of the Council amending Directives 2002/21/EC on a common regulatory framework for electronic communications networks and services, 2002/19/EC on access to, and interconnection of, electronic communications networks and services, and 2002/20/EC on the authorisation of electronic communications networks and services, COM(2007) 697 final.

Proposal for a Directive of the European Parliament and of the Council, Amending Council Directive 89/552/EEC, Annex, Impact Assessment – Draft Audiovisual Media Services Directive, COM(2005) 646 final.

'Proposal for a Regulation of the European Parliament and of the Council establishing the European Electronic Communications Market Authority - Outcome of the European Parliament's second reading, Strasbourg, 4 to 7 May 2009' (2009) Available at http://register.consilium.europa.eu/pdf/en/09/st09/st09320.en09.pdf, 26th July 2009.

Proposal for a Regulation of the European Parliament and the Council establishing the European Electronic Communications Market Authority, COM(2007)699 rev2

Regulation (EC) No 1211/2009 (BEREC Regulation).

Regulation (EC) No 2887/2000 of the European Parliament and of the Council of 18 December 2000 on unbundled access to the local loop

Regulation (EC) No Regulation (EC) No 717/2007 of the European Parliament and of the Council of 27 June 2007 on roaming on public mobile telephone networks within the Community and amending Directive 2002/21/EC, as amended by Regulation (EC) No 544/2009 of the European Parliament and of the Council of 18 June 2009.

Regulation of VoIP Services: Access to the Emergency Services Consultation, Ofcom, 26th July 2007.

Regulation of VoIP Services: Statement and further consultation, Ofcom, 2006.

Regulatory challenges posed by next generation access networks, Ofcom, Public discussion document, 23 November 2006.

'Regulatory Principles of IP-IC/NGN Core, ERG Consultation Document, ERG (08) 26rev1, ERG (08) 26rev1' (2008) Available at http://erg.ec.europa.eu/doc/publications/consult_erg_ip_ic_ngn_2008/arcor.pdf, 15th August 2009.

'Report on the Discussion on the application of margin squeeze tests to bundles, ERG (09) 07' (2009) Available at

http://erg.ec.europa.eu/doc/publications/2009/erg_09_07_report_on_the_discussion_of_the_application_of_margin_squeeze_tests_to_bundles.pdf, 24th October 2009.

Telecommunications Act 1996, 47 U.S.C. 153.

Telecommunications Act of 1984.

Telekommunikationsgesetz 2004 (TKG).

Treaty on the Functioning of the European Union.

US Telecommunications Act 1996

WIPO Copyright Treaty (WCT), adopted in Geneva on December 20, 1996.

'WTO Services Sectoral Classification List' (1991) www.wto.org/english/tratop_e/serv_e/mtn_gns_w_120_e.doc, 20th September 2011.

Reports and consultations

BEREC Common Statement on Next Generation Networks Future Charging Mechanisms / Long Term Termination Issues June 2010, BoR (10) 24 Rev 1.

Commission Staff Working Document on the Treatment of Voice over Internet Protocol (VoIP) under the EU Regulatory Framework - An Information and Consultation Document, Brussels, 14 June 2004.

Communication from the Commission: Unbundled Access to the Local Loop, Brussels, 26.4.2000 COM(2000) 237final.

'Cullen International Cross-country analysis, November 7, 2008' (2008) Available at http://www.cullen-international.com/documents/cullen/prindex.cfm, 26th January 2009.

'ERG Opinion on Functional Separation, ERG (07) 44' (2007) Available at http://www.erg.eu.int/doc/publications/erg07_44_cp_on_functional_separation.pdf, 15th August 2009.

'ERG Report Mobile access and competition effects, ERG (06) 45' (2006) Available at http://www.erg.eu.int/doc/publications/erg_06_45_report_on_mobile_access_market_competition.pdf, 8th August 2008.

'ERG Report on VoIP and Consumer Issues' (2006) Available at http://erg.eu.int/doc/publications/erg_06_39_report_voip_cons_aspects.pdf, 30th March 2011.

EU Telecom Trackers, Cullen International, June 2009.

FCC Policy Statement, August 2005.

IP Voice and Associated Convergent Services, Final Report for the European Commission, Analysys, 28 January 2004 (Analysys Report).

'IRG/ERG Work Program 2008' (2007) Available at http://erg.ec.europa.eu/doc/work_progr_2008/erg_07_65rev2_work_programme_2008.pdf, 1st November 2009.

ITU IP Telephony Workshop document IPTEL/03, 29 May 2000.

‘Public Consultation on the Regulatory Approach to Next Generation Access Networks (NGA)’ (2008) Available at http://www.anacom.pt/streaming/nga_determination18062008.pdf?contentId=598607&field=ATTACHED_FILE, 18th January 2009.

‘Regulation of British Telecommunications' Profitability’ (1983) Report by Professor Stephen C Littlechild to the Secretary of State for Industry, London, HMSO.

‘Super-fast broadband – Context and summary for Ofcom’s consultations on the wholesale local access and wholesale broadband access markets, Ofcom, 23 March 2010’ (2010) Available at http://stakeholders.ofcom.org.uk/binaries/consultations/wla/annexes/context.pdf, 7th November 2010.

The Essential Report on IP Telephony, ITU, 2003.

‘Traffic Management and ‘net neutrality’, A Discussion Document, Ofcom, 24 June 2010’ (2010) Available at http://stakeholders.ofcom.org.uk/binaries/consultations/net-neutrality/summary/netneutrality.pdf, 30th March 2011.

Wireline Broadband Internet Access Order, FCC, August 2005.

List of cases

104 FCC 2d 958 (1986)

28 FCC 2d 267 (1971)

77 FCC 2d 384 (1980)

AG v Edison Telephone Company of London (1880) 6 QBD 244.

Airtours plc v. Commission of the European Communities, Case T-342/99, Judgement of the Court of First Instance, 6th June 2002.

AT&T Corp. v. Iowa Utilities Board, 119 S. Ct. 721 (1999).

Bertelsmannn AG and others, Case C-413/06 P, Judgement of the Court, 10th July 2008.

Case FI/2008/0839: Wholesale (physical) network infrastructure access (including shared or fully unbundled access) at a fixed location in Finland, Comments pursuant to Article 7(3) of Directive 2002/21/EC, http://circa.europa.eu/Public/irc/infso/ecctf/library?l=/suomifinland/registeredsnotifications/fi20080839_1/fi-2008-0839_enpdf/_EN_1.0_&a=d, 21st January 2009.

Case MT/2007/0563.

Case NL/2008/0826: Wholesale access to the local loop for broadband and/or voice services; Case NL/2008/0827: Wholesale broadband access; Comments pursuant to Article 7(3) of Directive 2002/21/EC, http://circa.europa.eu/Public/irc/infso/ecctf/library?l=/nederland/registeredsnotifications/nl20080826/nl-2008-0826-0827/_EN_1.0_&a=d, 21 January 2009.

Case PT/2008/0850: Wholesale (physical) network infrastructure access (including shared or fully unbundled access) at a fixed location; Case PT/2008/0851: Wholesale broadband access; Comments pursuant to Article 7(3) of Directive 2002/21/EC1, http://circa.europa.eu/Public/irc/infso/ecctf/library?l=/portugal/registeredsnotifications/pt20080850-851/pt-2008-0850-0851/_EN_1.0_&a=d, 21st January 2009.

Case SI/2008/0806.

Comcast Corporation v. FCC, US Court of Appeals for the District of Columbia, No. 08-129, 6th April 2010.

Commission v. Germany, Case C-424/07.

Deutsche Telekom v. the Commission, T-271/03, 10 April 2008.

E911 Scope Order, 18 FCC Rcd at 25340

FCC Order, CC Docket 99-200, released: February 1, 2005.

FCC Report and Order 07-188, WC Docket No. 07-243, WC Docket No. 07-244, WC Docket No. 04-36, CC Docket No. 95-116, CC Docket No. 99-200.

Fla. Stat. Ann. §364.01(3) (West Supp. 2005)

Hoefner and Elser v. Macroton GmbH [1991] ECR I-1979.

In re Madison River Commc'ns, 20 F.C.C.R. 4295 (2005).

Oscar Bronner v. Mediaprint, C-7/97, Advocate General Jacobs' opinion, D-7/97.

Tele2 Telecommunication GmbH v Telekom-Control-Kommission, C-426/05.

Telecom Corporation of New Zealand Ltd v. Clear Communications Ltd [1995] 1 NZLR 385.

Verizon v. Trinko, 540 U.S. 398 (2004).

Vodafone España, SA and Vodafone Group plc v Commission, T-109/06.

Vonage, 290 F.Supp. 2d.

Wanadoo España v. Telefónica, Case COMP/38.784.

WC Docket No. 03-211, 19 FCC Rcd 22404 (2004)

WC Docket No. 04-36, released June 27, 2006.

APPENDIX: EXTRACTS FROM THE RELEVANT LEGISLATION

Article 4 of the 2002 *Framework Directive*:

1. Member States shall ensure that effective mechanisms exist at national level under which any user or undertaking providing electronic communications networks and/or services who is affected by a decision of a national regulatory authority has the right of appeal against the decision to an appeal body that is independent of the parties involved. This body, which may be a court, shall have the appropriate expertise available to it to enable it to carry out its functions. Member States shall ensure that the merits of the case are duly taken into account and that there is an effective appeal mechanism. Pending the outcome of any such appeal, the decision of the national regulatory authority shall stand, unless the appeal body decides otherwise.

2. Where the appeal body referred to in paragraph 1 is not judicial in character, written reasons for its decision shall always be given. Furthermore, in such a case, its decision shall be subject to review by a court or tribunal within the meaning of Article 234 of the Treaty.

Article 7a of the 2009 *Framework Directive*:

1. Where an intended measure covered by Article 7(3) aims at imposing, amending or withdrawing an obligation on an operator in application of Article 16 in conjunction with Article 5 and Articles 9 to 13 of Directive 2002/19/EC (Access Directive), and Article 17 of Directive 2002/22/EC (Universal Service Directive), the Commission may, within the period of one month provided for by Article 7(3) of this Directive, notify the national regulatory authority concerned and BEREC of its reasons for considering that the draft measure would create a barrier to the single market or its serious doubts as to its compatibility with Community law. In such a case, the draft measure shall not be adopted for a further three months following the Commission's notification. [...]

5. Where BEREC does not share the serious doubts of the Commission or does not issue an opinion, or where the national regulatory authority amends or maintains its draft measure pursuant to paragraph 4, the Commission may, within one month following the end of the three month period referred to in paragraph 1 and taking utmost account of the opinion of BEREC if any:

(a) issue a recommendation requiring the national regulatory authority concerned to amend or withdraw the draft measure, including specific proposals to that end and providing reasons justifying its recommendation, in particular where BEREC does not share the serious doubts of the Commission;

(b) take a decision to lift its reservations indicated in accordance with paragraph

Article 8 of the 2002 *Framework Directive*:

[…] *2. The national regulatory authorities shall promote competition in the*

provision of electronic communications networks, electronic communications services and associated facilities and services by inter alia:

(a) *ensuring that users, including disabled users, derive maximum benefit in terms of choice, price, and quality; (b) ensuring that there is no distortion or restriction of competition in the electronic communications sector;*

(c) encouraging efficient investment in infrastructure, and promoting innovation; and

(d) encouraging efficient use and ensuring the effective management of radio frequencies and numbering resources.

3. The national regulatory authorities shall contribute to the development of the internal market by inter alia:

(a) removing remaining obstacles to the provision of electronic communications networks, associated facilities and services and electronic communications services at European level;

(b) encouraging the establishment and development of trans-European networks and the interoperability of pan-European services, and end-to-end connectivity;

(c) ensuring that, in similar circumstances, there is no discrimination in the treatment of undertakings providing electronic communications networks and services;

(d) cooperating with each other and with the Commission in a transparent manner to ensure the development of consistent regulatory practice and the consistent application of this Directive and the Specific Directives.

4. The national regulatory authorities shall promote the interests of the citizens of the European Union by inter alia:

(a) ensuring all citizens have access to a universal service specified in Directive 2002/22/EC (Universal Service Directive);

(b) ensuring a high level of protection for consumers in their dealings with suppliers, in particular by ensuring the availability of simple and inexpensive dispute resolution procedures carried out by a body that is independent of the parties involved;

(c) contributing to ensuring a high level of protection of personal data and privacy;

(d) promoting the provision of clear information, in particular requiring transparency of tariffs and conditions for using publicly available electronic communications services;

(e) addressing the needs of specific social groups, in particular disabled users; and

(f) ensuring that the integrity and security of public communications networks are maintained.

Article 19 of the 2002 *Framework* Directive:

1. Where the Commission, acting in accordance with the procedure referred to in

Article 22(2), issues recommendations to Member States on the harmonised application of the provisions in this Directive and the Specific Directives in order to further the achievement of the objectives set out in Article 8, Member States shall ensure that national regulatory authorities take the utmost account of those recommendations in carrying out their tasks. Where a national regulatory authority chooses not to follow a recommendation, it shall inform the Commission giving the reasoning for its position.

2. Where the Commission finds that divergence at national level in regulations aimed at implementing Article 10(4) creates a barrier to the single market, the Commission may, acting in accordance with the procedure referred to in Article 22(3), take the appropriate technical implementing measures.

Article 19 of the 2009 *Framework Directive:*

1. Without prejudice to Article 9 of this Directive and Articles 6 and 8 of Directive 2002/20/EC (Authorisation Directive), where the Commission finds that divergences in the implementation by the national regulatory authorities of the regulatory tasks specified in this Directive and the Specific Directives may create a barrier to the internal market, the Commission may, taking the utmost account of the opinion of BEREC, issue a recommendation or a decision on the harmonised application of the provisions in this Directive and the Specific Directives in order to further the achievement of the objectives set out in Article 8.

2. Where the Commission issues a recommendation pursuant to paragraph 1, it shall act in accordance with the advisory procedure referred to in Article 22 (2). Member States shall ensure that national regulatory authorities take the utmost account of those recommendations in carrying out their tasks. Where a national regulatory authority chooses not to follow a recommendation, it shall inform the Commission, giving the reasons for its position.

3. The decisions adopted pursuant to paragraph 1 may include only the identification of a harmonised or coordinated approach for the purposes of addressing the following matters:

(a) the inconsistent implementation of general regulatory approaches by national regulatory authorities on the regulation of electronic communication markets in the application of Articles 15 and 16, where it creates a barrier to the internal market. Such decisions shall not refer to specific notifications issued by the national regulatory authorities pursuant to Article 7a; In such a case, the Commission shall propose a draft decision only:

– after at least two years following the adoption of a Commission Recommendation dealing with the same matter, and;

– taking utmost account of an opinion from BEREC on the case for adoption of such a decision, which shall be provided by BEREC within three months of the Commission's request;

(b) numbering, including number ranges, portability of numbers and identifiers, number and address translation systems, and access to 112 emergency services.

4. The decision referred to in paragraph 1, designed to amend non-essential elements of this Directive by supplementing it, shall be adopted in accordance with

the regulatory procedure with scrutiny referred to in Article 22(3).

5. BEREC may on its own initiative advise the Commission on whether a measure should be adopted pursuant to paragraph 1."

2002 *Framework Directive*, Annex II:

Criteria to be used by national regulatory authorities in making an assessment of joint dominance [...] Two or more undertakings can be found to be in a joint dominant position within the meaning of Article 14 if, even in the absence of structural or other links between them, they operate in a market the structure of which is considered to be conducive to coordinated effects. Without prejudice to the case law of the Court of Justice on joint dominance, this is likely to be the case where the market satisfies a number of appropriate characteristics, in particular in terms of market concentration, transparency and other characteristics mentioned below:

- *mature market,*
- *stagnant or moderate growth on the demand side,*
- *low elasticity of demand,*
- *homogeneous product,*
- *similar cost structures,*
- *similar market shares,*
- *lack of technical innovation, mature technology,*
- *absence of excess capacity,*
- *high barriers to entry,*
- *lack of countervailing buying power,*
- *lack of potential competition,*
- *various kinds of informal or other links between the undertakings concerned,*
- *retaliatory mechanisms,*
- *lack or reduced scope for price competition*

The above is not an exhaustive list, nor are the criteria cumulative. Rather, the list is intended to illustrate only the sorts of evidence that could be used to support assertions concerning the existence of joint dominance."

Article 17 of the 2002 *Universal Service Directive*:

Member States shall ensure that, where:

(a) as a result of a market analysis carried out in accordance with Article 16(3) a national regulatory authority determines that a given retail market identified in accordance with Article 15 of Directive 2002/21/EC (Framework Directive) is not effectively competitive, and

(b) the national regulatory authority concludes that obligations imposed under Directive 2002/19/EC (Access Directive), or Article 19 of this Directive would not result in the achievement of the objectives set out in Article 8 of Directive 2002/21/EC (Framework Directive),

national regulatory authorities shall impose appropriate regulatory obligations on undertakings identified as having significant market power on a given retail market ...

2008 draft of the 'Commission Recommendation of on regulated access to Next Generation Access Networks (NGA)', pricing principles:

1. General principles. All usage prices for ducts, other civil engineering works and other elements which are not active, should be based on a volume measure for physical capacity used (such as m3). Usage prices for ducts, other civil engineering works and other elements which are not active, should not be bound by the principle of geographic averaging in the presence of substantial cost differences between various areas.

2. Pricing of existing ducts, other civil engineering works and other elements which are not active. The usage price for existing ducts, other civil engineering works and other elements which are not active, should be based on cost estimates contained in the regulatory accounts of the SMP operator. These cost estimates should be historical costs minus depreciation, or, where this information is not available, current costs minus depreciation. Where these are not yet included, a proportionate share of the common costs of an efficient operator should be added to these cost estimates.

3. Pricing of new ducts, other civil engineering works and other elements which are not active (Greenfield projects). The usage price for new ducts, other civil engineering works and other elements which are not active should be based on costs plus a project-specific risk premium to be included in the costs of capital for the investment risk incurred by the operator. The risk premium should be estimated according to the methodology set out [...]

2008 draft of the 'Commission Recommendation of on regulated access to Next Generation Access Networks (NGA)', co-investment principles:

Joint deployment of FTTH networks by several co-investors under the following conditions would normally be indicative of absence of SMP:

- *At least three operators in addition to the operator having been designated SMP at the time of the market review or, in markets where an alternative operator competes at retail level on the basis of its own network (such as a cable operator), at least two operators in addition to the operator having been designated SMP at the time of the market review, jointly deploy and control FTTH networks; and*
- *The FTTH networks are based on multiple fibre lines; and*
- *Each co-investor enjoys equivalent and cost-oriented access to the joint infrastructure (the non-SMP operator(s) on the same terms and conditions as the SMP operator); and*
- *The co-investors are effectively competing on the downstream market; and*

- *The co-investors install sufficient duct capacity for third parties to use and grant cost oriented access to such capacity; and*
- *The co-investors enable third parties currently enjoying unbundled access to the local loop to migrate to comparable NGA wholesale products in case of de-commissioning of currently used points of interconnection.*

Proposal for a Directive of the European Parliament and of the Council amending Directives 2002/21/EC on a common regulatory framework for electronic communications networks and services, 2002/19/EC on access to and interconnection of electronic communications networks and services, and 2002/20/EC on the authorisation of electronic communications networks and services – *Political agreement' (2008),* Article 13a, Functional separation:

1. Where the national regulatory authority concludes that the appropriate obligations imposed under Articles 9 to 13 have failed to achieve effective competition and that there are important and persisting competition problems/market failures identified in relation to the wholesale provision of certain access products, it may, as an measure, in accordance with the provisions of the second subparagraph of Article 8(3), impose an obligation on vertically integrated undertakings to place activities related to the wholesale provision of relevant these access products in an independently operating business entity. That business entity shall supply access products and services to all undertakings, including to other business entities within the parent company, on the same timescales, terms and conditions, including with regard to price and service levels, and by means of the same systems and processes.

2. When a national regulatory authority intends to impose an obligation for functional separation, it shall submit a proposal to the Commission that includes:

(a) evidence justifying the conclusions of the national regulatory authority as referred to in paragraph 1;

(ab) […] a reasoned assessment that there is no or little prospect of effective and sustainable infrastructure-based competition within a reasonable timeframe;

(b) an analysis of the expected impact on the regulatory authority, on the undertaking, and on incentives to investment in a sector as a whole, particularly with regard to the need to ensure social and territorial cohesion and on other stakeholders including in particular the expected impact on […] competition and any potential entailing effects on consumers …

Commission guidelines on market analysis and the assessment of significant market power under the Community regulatory framework for electronic communications networks and services, 11 July 2002, 2002/C, OJ 165/03

- *overall size of the undertaking,*
- *control of infrastructure not easily duplicated,*
- *technological advantages or superiority,*
- *absence of or low countervailing buying power,*
- *easy or privileged access to capital markets/financial resources,*

- *product/services diversification (e.g. bundled products or services),*
- *economies of scale,*
- *economies of scope,*
- *vertical integration,*
- *a highly developed distribution and sales network,*
- *absence of potential competition,*
- *barriers to expansion.*

1997 *Interconnection Directive*, Annex I:

Organizations providing the public telecommunications networks and/or publicly available services identified below which have significant market power are subject to specific obligations with regard to interconnection and access.

1. Organizations which provide fixed and/or mobile public switched telecommunications networks and/or publicly available telecommunications services, and in so doingcontrol the means of access to one or more network termination points identified by one or more unique numbers in the national numbering plan …

2. Organizations which provide leased lines to users' premises.

3. Organizations which are authorized in a Member State to provide international telecommunications circuits between the Community and third countries, for which purpose they have exclusive or special rights.

4. Organizations providing telecommunications services which are permitted in this category to interconnect in accordance with relevant national licensing or authorization schemes.

1997 *Interconnection Directive*, Annex II: Organizations with Rights and Obligations to Negotiate Interconnection with Each Other in Order to Ensure Community-Wide Services:

1. Organizations which provide fixed and/or mobile public switched telecommunications networks and/or publicly available telecommunications services, and in so doingcontrol the means of access to one or more network termination points identified by one or more unique numbers in the national numbering plan. [...]

2. Organizations which provide leased lines to users' premises.

3. Organizations which are authorized in a Member State to provide international telecommunications circuits between the Community and third countries, for which purpose they have exclusive or special rights.

4. Organizations providing telecommunications services which are permitted in this category to interconnect in accordance with relevant national licensing or authorization schemes.

Article 11 of the 95/62/EC *Voice Telephony Directive*:

1. National regulatory authorities shall ensure that reasonable requests for interconnection with the fixed public telephone network from the organizations listed below are met, in particular to ensure Community-wide provision of voice telephony services:

(a) telecommunications organizations providing fixed public telephone networks in other Member States, whose names have been notified in accordance with Article 26 (3);

(b) operators of public mobile telephony services in the same Member State.

No request for interconnection shall be refused by a telecommunications organization without the prior agreement of its national regulatory authority. Interconnection with the fixed public telephone network of operators of public mobile telephony services in other Member States, whose names have been notified in accordance with Article 26 (3), may also be agreed between the parties involved. No request for such interconnection shall be refused by a telecommunications organization without the prior agreement of its national regulatory authority.

2. Technical and commercial arrangements for interconnection shall be a matter for agreement between the parties involved, subject to intervention by the national regulatory authority as laid down in Article 10 (3) and (4).

3. National regulatory authorities shall ensure that telecommunications organizations adhere to the principle of non-discrimination when they enter into interconnection agreements with others.

4. If interconnection agreements include specific compensation provisions for the telecommunications organization in situations where different operating conditions, e.g. price controls or universal service obligations, are imposed upon the respective parties, such compensation provisions shall be cost-oriented, non-discriminatory and fully justified, and shall only be applied with the approval of the national regulatory authority acting in accordance with Community law.

5. Details of interconnection agreements shall be made available, upon request, to the national regulatory authorities concerned.

§ 9a TKG 2004 Neue Märkte:

(1) Vorbehaltlich des nachfolgenden Absatzes unterliegen neue Märkte grundsätzlich nicht der Regulierung nach Teil 2.

(2) Wenn Tatsachen die Annahme rechtfertigen, dass bei fehlender Regulierung die Entwicklung eines nachhaltig wettbewerbsorientierten Marktes im Bereich der Telekommunikationsdienste oder -netze langfristig behindert wird, kann die Bundesnetzagentur einen neuen Markt abweichend von Absatz 1 nach den Bestimmungen der §§ 9, 10, 11 und 12 der Regulierung nach Teil 2 unterwerfen. Bei der Prüfung der Regulierungsbedürftigkeit und der Auferlegung von Maßnahmen berücksichtigt die Bundesnetzagentur insbesondere das Ziel der Förderung von effizienten Infrastrukturinvestitionen und die Unterstützung von Innovationen.